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ABSTRACT

Developed by high school teachers and junior college instructors in cooperation with representatives of business and industry, these materials are designed to help students move from class to class, from secondary to postsecondary education, and from school to employment. The materials consist of student outcomes; competencies for job, advanced placement, and life application; sample records; and teacher keys. Each competency is made up of a task (what the student must do to demonstrate an ability to do the job), conditions and limitations (a description of the circumstances under which the student will demonstrate the skill), and criteria of acceptable performance. The teacher keys provide the correct answers to evaluations for these criteria. Two sets of competencies are included in the materials: (1) computer literacy competencies applicable to life uses, job competence, and advanced education and training and (2) occupational competencies in data processing applicable to initial employment and to advanced placement for educational purposes. Two record forms, one for charting competencies of all students in a class and the other an individual student record, are included in the materials. They may be used by students and teachers to chart progress toward specific knowledge and skills and as achievement records for presentation with job or postsecondary school applications. (KC)

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COMPETENCIES FOR ARTICULATION

COMPUTER LITERACY
DATA PROCESSING OCCUPATIONS

A Project in Vocational Education
Performed Pursuant to a Grant from the

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A Project of the
Lincoln Public Schools
Educational Service Unit No. 6
Southeast Community College

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CONTENTS

Preface i
Acknowledgements ii
Introduction iii

Student Outcomes 1
- Computer Literacy 3
- Job Opportunities 4
- Advanced Placement Policy Statement 5
- Advanced Placement Credit 6

Competencies

- Computer Literacy 7
  - No. 1 Hardware, Software and Systems 9
  - No. 2 Computer Languages 13
  - No. 3 Computer Usage and Applications 19
  - No. 4 Career Opportunities 23
  - No. 5 Effects of Computers on Society and about Data Control 27
  - No. 6 Stages of Development of Computers 29
  - No. 7 Computer Vocabulary 31
  - No. 8 Operate Microcomputer 33

Data Processing Occupations 35

- Data Entry
  - No. 1 Determine Program 37
  - No. 2 Enter Data 39
- Machine Operation
  - No. 3 Operate Input/Output Device 75
  - No. 4 Operate a Console 77
  - No. 5 Operate a Printer 79
  - No. 6 Operate a Console Printer 81
- Programming
  - No. 7 Write a Program in BASIC 83
  - No. 8 Write a Program in COBAL 91

Teacher Key 97
- Computer Literacy 99
- Data Processing Occupations 109

Individual Student Record 127

Class Competency Record 131

PREFACE

More emphasis than ever is being given to educational competencies. The public is questioning the basic abilities of graduates and is demanding that schools be more accountable for student performance. Educators are determined to give a clear definition of what students are expected to learn.

Although many people are interested in competencies, few seem able to explain what they mean or give specific examples. Staff members of this project can. They have addressed an important problem — articulation between schools — in terms of the competencies students should have.

Defining competencies will not necessarily improve articulation. That improvement demands understanding, trust and cooperation among all concerned. Neither does the definition assume full-fledged competency-based education — for that requires a complex system for instruction, assessment and certification that takes time to develop.

While these competency statements are not the whole picture, they are a significant achievement. If used properly, they will contribute to both better articulation and improved learning.

Ron Brandt
Executive Editor
Association for Supervision
and Curriculum Development
Washington, D.C.

The Competencies for Articulation in this volume represent a significant opportunity for instructional improvement and continuity of program for young men and women preparing for vocations. They are the product of cooperation among secondary and post-secondary educators, working with community representatives. Designed to be only one part of the students' educational experience, they need to be combined with skilled instruction and adequate environment.

Competencies have received much attention in educational literature in recent years. The wide variety of claims for their effectiveness from several sources has tended, sometimes, to either confuse or mislead both the public and professional educators. Experience has taught us that educational improvement cannot be based on a single idea or concept; therefore, these competencies are not the answer to all educational ills. They are, however, a valuable resource for clarifying and validating the instructional process required to produce the skills necessary for today's complex industrial-economic system.

James Travis
Associate Superintendent
for Instruction
Lincoln Public Schools
Lincoln, Nebraska

ACKNOWLEDGEMENTS

The significant contributions of committee members in the development of these materials are greatly appreciated. Members representing three educational agencies — the Lincoln Public Schools, Educational Service Unit No. 6 and Southeast Community College — and a business firm — International Business Machines — combined skills to provide helpful materials for articulation purposes to teachers and administrators.

Persons representing business and industry in Lincoln, Milford and other cities in the Educational Service Unit and the Southeast Community College area also contributed expertise through a series of meetings. Vocational teachers from Lincoln and other communities, although not directly involved in the project, made similar contributions as materials were developed. Gary Hendrix, Senior Computer Operator, Bankers Life Nebraska, served as a resource person in developing occupational competencies in machine operation. His contribution is greatly appreciated.

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INTRODUCTION

Professional staff members of the Lincoln Public Schools, Educational Service Unit No. 6, and the Southeast Community College have joined with representatives of business and industry in developing these instructional materials.

The educational materials in this guide may be used by administrators, students, and secondary and post-secondary teachers. They are designed to help students move from class to class, grade to grade, secondary studies to post-secondary school, or employment. The materials consist of:

1. Student Outcomes
2. Competencies for Job, Advanced Placement and Life Application
3. Class Progress Chart
4. Record of Individual Student Skill Achievement
5. Teacher Keys

Two sets of competencies are included in these materials:

1. Computer literacy competencies applicable to life applications, job competence, and advanced education and training.

2. Occupational competencies applicable for initial employment and for advanced placement for educational purposes.

Some schools may be able to provide more opportunities for students to complete competencies and tasks than others. Whatever the case, teachers and administrators will find the materials helpful when planning programs for students and for determining what educational experiences may be made available to them. Students may use the materials to understand and plan the skill developments necessary for employment and additional education.

Teachers and students should keep records of competencies as they develop. Two record forms, one for charting competencies of all students in a class and the other an individual student record, are included in the materials. These records may be used by students and teachers to chart progress toward specific knowledge and skills, and as achievement records for presentation with job or post-secondary school applications.

Student Outcomes

This information applies to:

1. Computer literacy
2. Job opportunities
3. Advanced placement in post-secondary education

"Student outcomes" describe what instruction has prepared a student to do.

COMPUTER LITERACY

1. One goal of a computer curriculum may be to produce students who are computer literate by the time they leave high school.

2. Recommended competencies to be developed by students are knowledge of:

   a. computer hardware, software, and systems

   b. computer languages

   c. computer usages and applications in various fields

   d. career opportunities in data processing

   e. the effects of computers on society and about data control

   f. the evolution of computers

   g. computer vocabulary (terminology)

   h. microcomputer operations

JOB OPPORTUNITIES

Many data processing positions available in the Lincoln community and in surrounding areas are listed along with the Dictionary of Occupational Titles and the Office of Education codes.

Recommended competencies to be developed by students for initial employment are given. Students may use this information to plan and prepare school experiences properly.

Dictionary of Occupational Titles Code Number	Office of Education Code Classification	Occupational Title	Competencies Necessary for Initial Employment	Recommended Additional Training
213.362-010	14.02	Computer Operator (clerical console operator)	CL 1-8 DP 3-6	Post secondary education
213.685-010	14.02	Auxiliary-Equipment Operator, Data Processing	CL 1-8 DP 3-6	Post secondary education
213.382-010	14.02	Computer-Pheripheral-Equipment Operator	CL 1-8 DP 3-6	Post secondary education
203.582.054		Computer Terminal Operator	CL 1-8 DP 1-2	
012.167-066	14.02	System Analyst, Electronic Data Processing	CL 1-8 DP 1-8	Post secondary education and experience
020.162-014	14.02	Programmer, Business	DP 7-8	Post secondary education and experience
020.167-018	14.02	Programmer, Chief, Business	DP 7-8	Post secondary education and experience

CL — Computer Literacy
DP — Data Processing

ADVANCED PLACEMENT POLICY STATEMENT

Southeast Community College
Lincoln and Milford Campuses

The College believes that students should be recognized and rewarded for previous educational and occupational experience when that experience results in competence in areas normally addressed by the courses and programs of the College. Advanced standing may be awarded with full credit, up to limits established by each department of the College but not exceeding 30 credit hours. Credits earned in other accredited educational institutions in excess of 30 hours may be accepted by the department.

The College has established the following methods to enable students to gain advanced standing:

CREDIT BY EXAMINATION

Some courses have been identified which may be completed by examination. Testing devices and evaluation procedures will vary according to the course, departmental requirements and the amount of credit being advanced.

To apply for credit by examination, the applicant must have been accepted for admission to the College and have established a transcript. Applications for Credit by Waiver or Examination must be submitted to the department from which credit would be granted.

Applicants for credit by examination must pay the following: 50% of the current per credit hour fee for each credit hour attempted by examination. This fee must be paid prior to the examination.

A "Credit by Examination Notice" will be forwarded to the Campus Registrar for all credit granted by examination. The Registrar will record all credit granted as "Px" (Passed by Examination) on the transcript. No honor points will be awarded and the credit by examination will not be included in the cumulative grade point average (CGPA).

CREDIT BY WAIVER

Some courses and series of courses have been identified which may be waived in meeting program graduation requirements.

Students requesting advanced standing Credit by Waiver must: Complete an Application for Credit by Waiver or Examination and submit the application for evaluation to the department granting the waiver.

Upon completion of the evaluation, submit the application and evaluation to the Campus Registrar for recording on their transcript.

The following entry will be made on the student's transcript for all course credit granted by waiver: "The following program requirements were waived by substituting previous education and/or occupational experience. (List course waived.) This waiver of program requirements was granted this date _____ by _____ (evaluator) and is in accordance with Department, Campus and Area policies, rules and regulations."

No fee will be charged for advanced credit by waiver.

Credit by Waiver will not be included in calculating student's grade point average (CGPA).

Credit granted by waiver is subject to evaluation by other departments, programs and other institutions and probably would not be accepted as transfer credit by them.

Credit granted by waiver will be contingent upon satisfactory completion of advanced courses.

ADVANCED PLACEMENT

Southeast Community College
Milford Campus

Advanced placement in the Data Processing Program of the Milford Campus of Southeast Community College will be determined on the basis of competencies which the prospective student demonstrates according to the following:

Students Demonstrating Competency No.	Will Receive SCC Credit In the Amount of	For SCC Course No.	Course Title
3-6	3	161	Computer Operations
7	2	121	Computer Programming — Basic
8	3	335	COBOL Programming

The program supervisor fo the Data Processing Program has the responsibility for conducting and evaluating examinations to determine the competency level of students requesting consideration under this agreement.

Examinations used for evaluation purposes will be updated from time to time although every effort will be made to maintain their consistency with the competencies identified in this agreement.

This agreement cannot, however, be considered a contract between Southeast Community College-Milford Campus and any prospective student. The Board of Governors of the College reserves the right to make changes in courses required, courses offered, credits waived, credits granted, and in any other matter it deems necessary without revision of this agreement and without notice. Prospective students wishing consideration under this agreement should contact the program supervisor in order to establish and maintain a close working relationship between the College, its program, and the student.

Competencies

Computer Literacy

A competency consists of three sections or parts that combine to provide a detailed outline of a major task that a student must accomplish to reach one or more previously stated student outcomes. Competencies are described as follows:

a. Task — What the student must do to demonstrate an ability to do the job.

b. Conditions and Limitations — A description of the circumstances under which the student will demonstrate the skill. Usually included are:

   1. time allowance;
   2. tolerances allowed;
   3. references which may be used;
   4. specific tools and materials to be used (common tool lists are generally omitted unless a required usage is to be demonstrated);
   5. work location (if other than school site);
   6. and, other limitations unique to the task.

c. Criteria of Acceptable Performance — Standards described that constitute acceptable performance. These standards must:

   1. be compatible with the task and the condition;
   2. evaluate all components of the conditions;
   3. include the percentage of responses that must be correct if the competency is primarily cognitive;
   4. and, specify the standard for the criteria. This may take the form of a list of criteria, an instructor's checklist, or references to an authoritative manual such as an automotive flat-rate manual.

Represented in the guide are those competencies needed for initial employment. They are not designated or described by grade level. A student may complete all the competencies available at a school if learning capabilities and time permit.

TASK:

The student will demonstrate knowledge of computer hardware, software, and systems.

A. Components

CONDITIONS AND LIMITATIONS:

The student will identify and define the three basic components of a computing system.

CRITERIA OF ACCEPTABLE PERFORMANCE:

1. The three basic components must be identified with 100 percent accuracy. The teacher key provides the correct answers.

2. Definitions for the three basic components must contain key words. Examples may be used only to enhance definitions. The teacher key provides the correct answers.

B. Hardware and Software

CONDITIONS AND LIMITATIONS:

The student will (1) write two definitions, one for hardware and one for software, and (2) distinguish from the following list of 20 hardware and software items those that are (H) hardware and those (S) software.

Twenty hardware and software items:

1. Printer
2. Disc Drive
3. Application programs
4. Magnetic tape
5. Compilers
6. Assembler
7. Terminal
8. Operating systems
9. Central processing unit
10. Disk
11. Card Reader
12. Documentation
13. Magnetic tape drive
14. Translator
15. Job control
16. Console
17. Utility programs
18. Data base
19. Plotter
20. CRT

CRITERIA OF ACCEPTABLE PERFORMANCE:

1. The definitions must contain key words. The teacher key provides the correct answers.

2. All hardware and software items must be labeled with 100 percent accuracy. The teacher key provides the correct answers.

C. Basic Terms of a Computing System

CONDITIONS AND LIMITATIONS:

The student will select from the following list of seven definitions the correct definition for each of the five basic items listed below:

Basic Items

Program
Arithmetic/Logic Unit
Control Unit
Memory
Operating System

Definitions:

A. A device into which data can be entered, held, and retrieved at a later time.

B. Part of the CPU that directs and coordinates the entire computer system.

C. The accumulation and processing of data as a group.

D. Instructions, directions and sequence of tasks to produce a desired output.

E. Controls all computational operations and decision making.

F. A set of related records.

G. Collection of programs that allows the computer to supervise its own operation.

CRITERIA OF ACCEPTABLE PERFORMANCE:

Only one definition must be selected for each term with 100 percent accuracy. The teacher key provides the correct answers.

D. Media

CONDITIONS AND LIMITATIONS:

The student will select from the following 16 characteristics of media the three most closely associated characteristics for each of the following four media:

Media

Punch Card
Magnetic Tape
Disk/Drum
Paper Tape

Characteristics

Turn-around document
Punched hole
Used by Hollerith
Random access
High speed input/output
Low density storage
High density storage
Don't fold, bend or mutilate
Slow speed input/output
Channels
Reel
"Floppy"
Columns
Sectors
Magnetized spots
Cannot be modified, once keyed

CRITERIA OF ACCEPTABLE PERFORMANCE:

Three characteristics, and only three, must be selected for each of the four media; all must be done with 100 percent accuracy. The teacher key provides the correct answers.

TASK:

The student will demonstrate knowledge of computer languages.

A. Definitions

CONDITIONS AND LIMITATIONS:

The student will, using the following list of 10 definitions, (1) match appropriate definitions that best describe each computer language and (2) indicate which are (H) high level and (L) low level for the following languages:

Definitions:

1. A language that serves as a link between the operating system and the application program.
2. A language using symbols and abbreviations to represent the function to be performed.
3. An original language designed for scientists, mathematicians, and engineers.
4. A series of numbers, letters, and other bit configurations which are interpreted by the electronic circuitry of a computer.
5. A language designed to provide an easy method of generating routine business reports.
6. A widely used language for personal computers and small business systems.
7. A language that interprets sources and statements and immediately causes statements to be executed one at a time.
8. The most widely used business programming language for large computers.
9. A language that encourages good programming style and structured language.
10. A language designed to provide an easy method of generating graphic displays.

COBOL
FORTRAN
RPG
BASIC
MACHINE
ASSEMBLER
PASCAL
LOGO

CRITERIA OF ACCEPTABLE PERFORMANCE:

All definitions must be matched with 100 percent accuracy and levels selected with 100 percent accuracy. The teacher key provides the correct answers.

B. Flow Chart Symbols

CONDITIONS AND LIMITATIONS:

The student will draw the following flowchart symbols:

Connector
Decision
Process
Input/Output
Start/Stop

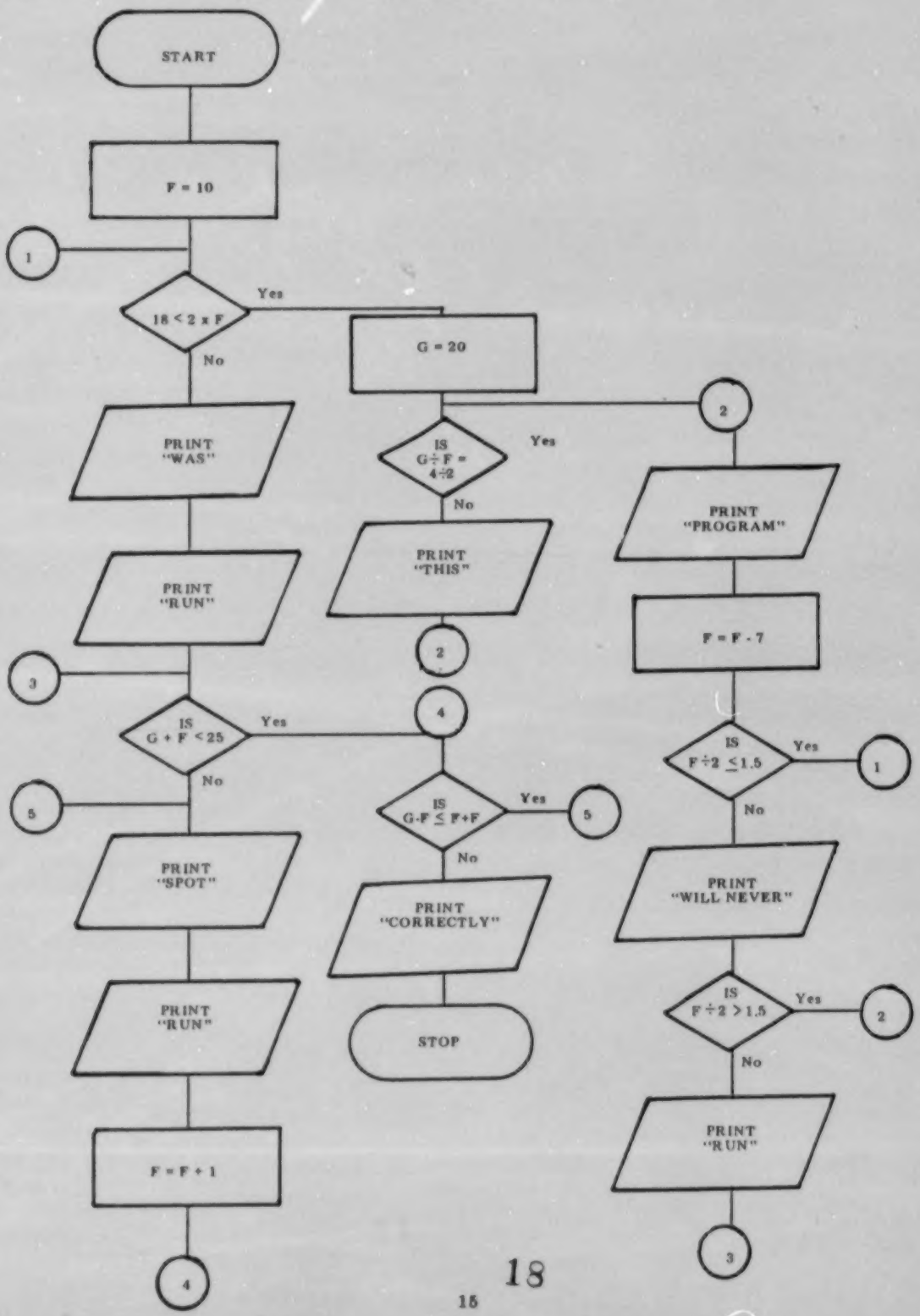
CRITERIA OF ACCEPTABLE PERFORMANCE:

Each flowchart symbol must be illustrated according to American National Standards Institute (ANSI) standards with 100 percent accuracy. The teacher key provides the correct answers.

C. Flow Chart Reading

CONDITIONS AND LIMITATIONS:

The student will read the following flow chart and arrive at the solution:



CRITERIA OF ACCEPTABLE PERFORMANCE:

The solution must be 100 percent accurate. The teacher key provides the correct answers.

D. Basic Program Reading

CONDITIONS AND LIMITATIONS:

The student will read and interpret the following three BASIC programs:

1. Determine the final value of K, S, and X for the following computer program.

```
10 LET K=0
20 LET S=0
30 LET X=5
40 LET K=K+1
50 LET S=S+X
60 LET X=K+S
70 END
```

K = _____

S = _____

X = _____

2. Determine what the output will be for the following computer program.

```
10 LET A=10
20 LET B=20
30 LET A$="The sum = "
40 LET C=A+B
50 LET C=C+10
60 PRINT A$;C
70 END
```

Circle the correct response.

a. A$ 30

b. The sum = 50

c. A$ 40

d. The sum = 40

3. Determine what the output will be for the following computer program:

```
10 LET A=0
20 LET B=10
30 LET A=A+1
40 IF B=0 THEN 70
50 LET B=B-2
60 GOTO 30
70 PRINT A,B
80 END
```

Circle the correct response.

a. 5 0

b. 5 -2

c. 6 0

d. 4 -2

e. 4 0

CRITERIA OF ACCEPTABLE PERFORMANCE:

The correct value of K, S, and X for the first BASIC program must be determined with 100 percent accuracy and the correct responses for the output of programs 2 and 3 must be determined with 100 percent accuracy. The teacher key provides the correct answers.

E. Coding Program in BASIC Language

CONDITIONS AND LIMITATIONS:

The student will, using each of the commands READ, LET, IF THEN, GOTO, PRINT, DATA and END one time only, write a BASIC program that will perform the following steps.

1. Using the variable A, read the numbers 1 through 5 consecutively one at a time.
2. Using the variable T, accumulate the sum of the numbers read.
3. Processing will continue until A attains the value of 5.
4. When A attains the value of 5, coding will cause the total accumulated value to be printed and the processing will stop.

CRITERIA OF ACCEPTABLE PERFORMANCE:

The BASIC program must include the statements READ, LET, IF THEN, GOTO, PRINT, DATA and END each one time only so that the computer will execute the program and produce the sum 15.

TASK:

The student will demonstrate knowledge of computer usage and applications in various fields.

A. Computer Applications

CONDITIONS AND LIMITATIONS:

The student will select the correct response or responses for each of the following eleven situations:

1. Which of these computer applications would least likely be utilized in a grocery store?

   a. Scanning device capable of reading bar codes
   b. Reader-sorter used for magnetic ink character recognition
   c. Point of Sale terminal (used to maintain sales records and update inventory)

2. Which of these computer applications would least likely be used in the manufacture of a car?

   a. Graphic display devices
   b. Computer operated/controlled machines
   c. Computer assisted instruction

3. A homemaker keeps a recipe file on his/her computer. Which of the following applications is the homemaker utilizing?

   a. Record keeping
   b. Commodity exchange
   c. Inventory analysis

4. At a local hospital, doctors may have difficulty diagnosing the cause of a patient's illness. Which of the following computer generated items would be used to help the doctors make their diagnosis?

   a. Chemical analysis reports
   b. Medicare
   c. Patient medical records
   d. Quality control
   e. Blood analysis reports

5. A hospital business administrator uses the computer. Which applications would apply?

   a. Room assignments
   b. Billing
   c. Payroll
   d. Patient insurance records
   e. Diagnosis

6. Which of these computer applications would be used in areas of transportation?

   a. Determine location of trains and specific cars anywhere in the country
   b. Determine seat availability on a particular plane for passengers
   c. Transmit weather data helpful in determining flight navigation
   d. Process flight schedule information

7. Which of the following farm functions could be performed with the use of a computer?

   a. Monitoring irrigation wells
   b. Recording livestock records
   c. Collecting soil samples
   d. Determining the balance of livestock rations
   e. Figuring the depreciation on equipment

8. Which of the following banking services cannot be done with a computer?

   a. Printing account statements and figuring account balances
   b. Withdrawing cash through teller machines
   c. Requesting an account balance
   d. Printing magnetic ink characters on checks

9. Principals and teachers use a computer for many school applications. Which of the following would most likely be used by these people?

   a. Scheduling classes
   b. Generating mailing labels
   c. Using C.A.I. (Computer Assisted Instruction) and C.M.I. (Computer Managed Instruction)
   d. Scoring standardized tests
   e. Scanning bar codes
   f. Producing grade reports

10. Which of the following computer applications would take place when a person makes a purchase at a department store and uses a plastic card for payment?

    a. The amount of the customer purchase is immediately recorded as a sale to the store account
    b. The store inventory is adjusted to reflect the sale of merchandise
    c. The person's bank immediately sends cash for the amount of the purchase to the store

11. Which of the following warehouse functions could be performed by a computer in keeping track of inventory?

    a. Determine quantity on hand
    b. Determine customer discount
    c. Stock the shelves
    d. Determine when to reorder
    e. Determine how much to reorder

CRITERIA OF ACCEPTABLE PERFORMANCE:

The responses must be selected with 80 percent accuracy. The teacher key provides the correct answers.

B. Computer Activities

CONDITIONS AND LIMITATIONS:

The student will complete the following four statements using each of the following four activities once only:

Activities

A. Simulation
B. Information storage and retrieval
C. Computation
D. Decision making

1. _____ is the computer activity used in averaging data.
2. A space shuttle count down was stopped by a computer; the computer activity used is _____.
3. An auto manufacturer used a computer to test the air resistance of 1,000 different designs in order to find the one that presents the least air resistance. This is an example of using a computer for _____.
4. Checking out a book at the public library or the printing of mailing labels are examples of the computer activity _____.

CRITERIA OF ACCEPTABLE PERFORMANCE:

The four statements must be completed with 100 percent accuracy. The teacher key provides the correct answers.

C. Reasons for Using Computer

CONDITIONS AND LIMITATIONS:

The student will complete the following four statements using each of the four reasons once only.

Reasons

A. Speed/Accuracy
B. Flexibility
C. Reliability/Dependability
D. Repetition

1. Adding the same numbers together 1000 times is an example of _____.
2. Adding the same numbers together 1000 times and rapidly producing the correct answer each time is an example of _____.
3. Performing the same process with the same degree of accuracy is an example of _____.
4. Continuing the same process with varying data and achieving a result is an example of _____.

CRITERIA OF ACCEPTABLE PERFORMANCE:

The four statements must be completed with 100 percent accuracy. The teacher key provides the correct answers.

TASK:

The student will demonstrate knowledge about career opportunities in data processing.

A. Major Career Levels of Employment

CONDITIONS AND LIMITATIONS:

The student will, given five major career levels of employment, rank them 1 through 5 based on skills, knowledge and experience required (1 is least; 5 is most).

Major Career Levels of Employment

1. System analysis
2. Data entry
3. Management
4. Computer-machine operation
5. Programming

Use the appropriate career level number from the list above.

Least (1) _____

(2) _____

(3) _____

(4) _____

(5) _____

CRITERIA OF ACCEPTABLE PERFORMANCE:

The five levels must be ranked in order with 100 percent accuracy. The teacher key provides the correct answers.

B. Tasks Performed

The student, given 12 tasks performed in five major career levels, will indicate the level in which each task will occur.

Major Career Levels of Employment

1. Computer-machine operation
2. Systems analysis
3. Data entry
4. Management
5. Programming

Use the appropriate career level number from the list above.

_____ 1. Works with computer users to define projects.

_____ 2. Has responsibility for overall planning, organizing, staffing and directing.

_____ 3. Writes detailed instructions in computer language which "tells" the computer what to do with the data.

_____ 4. Follows programmer's instructions for processing the input.

_____ 5. Debugs and tests the coding instructions.

_____ 6. Prepares programs and data for input.

_____ 7. Defines the computer process necessary to turn raw data into useful information.

_____ 8. Coordinates daily activities of the computer installation or operation with emphasis on separate duties.

_____ 9. Makes sure the computer is loaded properly and then runs the program.

_____10. Keys data onto cards, disks, tape, etc.

_____11. Insures orderly development of projects.

_____12. Codes the logic of the flow chart in an appropriate language.

CRITERIA OF ACCEPTABLE PERFORMANCE:

Ten of the 12 tasks and career levels must be matched correctly. The teacher key provides the correct answers.

C. Education and Training

CONDITIONS AND LIMITATIONS:

Given a grid containing skills, characteristics, education and experience for initial employment, the student will match them to each of the five major career levels.

Major Career Levels of Employment

1. Data entry
2. Computer-machine operation
3. Programming
4. System analysis
5. Management

Select the appropriate career level number from the list above.

Career Level	Skills	Characteristics	Education	Computer/Data Processing Experience
1. __	thinks logically; experience with computer language	persistence	technical school	usually required; varies with the system
2. __	keyboarding	repetition, accuracy, manual dexterity	technical school; high school diploma	no previous experience
3. __	experience with computer language thinks logically communication skills	creative; tactful	2 or 4 years college degree	required — actual and practical
4. __	follow and interpret instruction	good organizer	technical school	preferred but not required
5. __	budgeting; purchasing supervising communications	future-oriented leadership; flexible	4-year college degree	required

CRITERIA OF ACCEPTABLE PERFORMANCE:

The grid will be matched with the five major career levels with 100 percent accuracy. The teacher key provides the correct answers.

TASK:

The student will demonstrate knowledge of the effects of computers on society and about data control.

A. Positive and Negative Computer Uses

CONDITIONS AND LIMITATIONS:

The student will identify positive computer uses (P) and negative computer uses (N) described in the following information:

Read the story and place a (P) before positive statements and an (N) before negative statements in the blanks provided.

Henry Walker works at a local bank. His life is involved with computers in a number of ways — ways that have both positive and negative affects on society.

Henry called his mother in Phoenix using ____ (a) direct dialing. His mother was concerned because she had been recently ___(b) replaced at work by a computer and was now out of work. Henry encouraged her to visit him by suggesting he would make plane reservations. After the conversation, he called the local airport and ____ (c) made plane reservations for his mother.

On the way to work Henry stopped to buy gasoline for the car and used his ___ (d) credit card for payment. Since Henry talked with his mother for a longer period of time than expected, he had to speed to get to work on time. A police officer stopped Henry and radioed to headquarters for the usual check ____ (e) of vehicle and driver license information. After being ticketed by the officer, Henry drove to work and parked the car.

On the sidewalk outside of Henry's bank he noticed someone had dropped an automatic bank teller card. He also noticed the owner had carelessly written the security code on the back side of the card. Henry took the card to the automatic teller and ____ (f) withdrew $50 from the card owner's account. After pocketing the money, he tossed the card into a trash can and walked to his office.

At work, Henry's employer asked him to check on the account balance of a customer. Henry got the information on the account ___ (g) through the computer terminal and jotted down the balance. Because Henry recognized the person as being a neighbor, he ___ (h) scanned the records for additional personal information about him.

While Henry ate lunch at noon, he balanced the checkbook and discovered he didn't have enough money to last until his next pay check. He went to the bank's terminal and ____ (i) transfered money from some customer's account to his own. Then he checked on the due date of his car insurance payment by calling the company and providing his social security number and the policy number. The company ___ (j) checked his records and told him it was due next month.

This use of the social security number and policy number caused ___ (k) Henry to think about being identified as a number as well as a name in today's world.

After work, Henry stopped at a grocery store that used a ___ (l) scanner device for grocery check out. During the evening meal, he examined mail he had received that day (all junk mail) and was concerned about ___ (m) being on so many mailing lists.

After the meal, he took out the copyrighted computer program his best friend had loaned him and proceeded to ____ (n) copy the program for his own personal use.

CRITERIA OF ACCEPTABLE PERFORMANCE:

The student will correctly identify 12 of the 14 tasks. The teacher key provides the correct answers.

B. Data Control — Security

CONDITIONS AND LIMITATIONS:

The student will check from the following list those that represent ways of securing a computer system against either loss of data or unauthorized access to the computer system.

_____ 1. Bursting

_____ 2. Log-on password

_____ 3. Identification number

_____ 4. Indexed access method

_____ 5. Job control language

_____ 6. Internal program control

_____ 7. System key lock

_____ 8. Back-up files

_____ 9. Control break

_____10. Magnetic encoded card

_____11. Shared file environment

_____12. Personnel identification check

CRITERIA OF ACCEPTABLE PERFORMANCE:

The student will correctly label at least 9 of the 12 statements. The teacher key provides the correct answers.

TASK:

The student will demonstrate knowledge of the stages of development of computers.

CONDITIONS AND LIMITATIONS:

The student will, given four groups of characteristics, place the events in proper sequence in the order of occurrence for each group.

Group 1: Place a number — one through five — before each event to indicate its chronological order.

_____integrated circuit

_____transistor

_____vacuum tube

_____bubble memory

_____chip

Group 2: Place a number — one through five — before each event to indicate its chronological order.

_____IBM 1401

_____ENIAC

_____personal computer

_____IBM 360

_____microprocessor

Group 3: Place a number — one through four — before each event to indicate its chronological order.

_____data base

_____wired control panel

_____software introduced

_____multi programming

Group 4: Place a number — one through six — before each event to indicate its chronological order.

_____machine language

_____CRT

_____Abacus

_____Hollerith

_____slide rule

_____FORTRAN

CRITERIA OF ACCEPTABLE PERFORMANCE:

Each group must be numbered with 100 percent accuracy. The teacher key provides the correct answers.

TASK:

The student will demonstrate knowledge of computer vocabulary

CONDITIONS AND LIMITATIONS:

The student will, using the most appropriate term from the 26 words listed, complete the following statements: (Each term may be used one time only.)

1. alphanumeric	15. data
2. auxiliary storage	16. data base
3. access time	17. debug
4. bit	18. random access memory (RAM)
5. byte	19. sequential access
6. bug	20. K
7. batch processing	21. object program
8. on-line processing	22. source program
9. file	23. read only memory (ROM)
10. field	24. peripherals
11. record	25. modem
12. CRT	26. chip
13. compiler	27. computer
14. memory	28. word processing

1. _____ characters are made up of letters, numerials, and special symbols.
2. Information to be processed is called _____.
3. _____ contains information which is read into the computer for processing.
4. The interval between the time information is called for and received is called _____.
5. A unit of data within a record is called a _____.
6. An error in programming is called a _____. To eliminate errors is to _____ the program.
7. Results of the computing operation are available immediately in _____ using telecommunications and the accumulating and processing of information as a group is _____.
8. The smallest unit used to represent data is called a _____. Several of these (usually 8) make up a _____.
9. A collection of fields is called a _____.
10. A collection of one or more records is a _____.

11. Another term for a visual display terminal is a _____.

12. A _____ is software that translates coded instructions, known as a(n) _____, into machine language known as a(n) _____.

13. Internal CPU storage, or _____, is measured in terms of _____, which is a multiple of 1024 bytes.

14. A _____ is a collection of interrelated and interactive files which can be accessed for a variety of uses.

15. To reference records consecutively from the beginning to the end of a file, the _____ method is used.

16. Data can be read from and written into a type of memory called _____. Data can only be read from a type of memory called _____.

17. The input, text editing, output and storage of information to produce textual documents using terminals and related devices is called _____.

18. A telecommunications device which interfaces between a telephone line and a computer is called a(n) _____.

19. A _____ is a miniature logic element which contains electronic circuitry.

20. External devices such as input and output units are referred to as _____.

21. A device that accepts the input of information, processes the data, and outputs the results is called a _____.

CRITERIA OF ACCEPTABLE PERFORMANCE:

At least 24 of the 26 blanks must be answered correctly. The teacher key provides the correct answers.

TASK:

The student will operate a microcomputer.

CONDITIONS AND LIMITATIONS:

The student will, given a microcomputer with a visual display device, a disk drive, and a diskette selected by the teacher containing at least one program which will produce a blank display when the machine is turned on, (1) insert the diskette, (2) turn on the computer and/or monitor, (3) obtain a listing of the program(s) on the diskette, (4) select and run a specific program, (5) remove the diskette and (6) turn off the equipment.

CRITERIA OF ACCEPTABLE PERFORMANCE:

The student will perform all six operations following procedures outlined in the manufacturer's operator manual.

Competencies

Data Processing Occupations

A competency consists of three sections or parts that combine to provide a detailed outline of a major task that a student must accomplish to reach one or more previously stated student outcomes. Competencies are described as follows:

a. Task — What the student must do to demonstrate an ability to do the job.

b. Conditions and Limitations — A description of the circumstances under which the student will demonstrate the skill. Usually included are:

   1. time allowance;
   2. tolerances allowed;
   3. references which may be used;
   4. specific tools and materials to be used (common tool lists are generally omitted unless a required usage is to be demonstrated);
   5. work location (if other than school site);
   6. and, other limitations unique to the task.

c. Criteria of Acceptable Performance — Standards described that constitute acceptable performance. These standards must:

   1. be compatible with the task and the condition;
   2. evaluate all components of the conditions;
   3. include the percentage of responses that must be correct if the competency is primarily cognitive;
   4. and, specify the standard for the criteria. This may take the form of a list of criteria, an instructor's checklist, or references to an authoritative manual such as an automotive flat-rate manual.

Represented in the guide are those competencies needed for initial employment. They are not designated or described by grade level. A student may complete all the competencies available at a school if learning capabilities and time permit.

TASK:

The student will determine program control for data.

CONDITIONS AND LIMITATIONS:

The student, given the following payroll data and accounts payable data and the card field, will (1) identify the fields by number for each of the 80 columns and (2) define whether the field is alpha, numeric, skip, left zero fill or dup.

Payroll Data

6-30	32	36-44	46-50	56-59	65-67	69-71	73-75	80
HILDY JOHN	M	228263467	25606	0161	350	100	450	3
DEEDS JANE T	F	266673898	05655	0130	300	035	335	1
JACKS PAULYN K	F	491384513	06612	0580	300	085	385	2
STERM ELLERY R	M	71123918	05176	0521	300	100	400	4
LOFF BARRY	M	609793293	07066	1502	400	025	425	2
ADAMS NORM	M	505551555	07657	1041	350	055	405	3
PETERS PAUL P	M	526463735	08566	0580	300	035	335	4
VENTEN RICK L	M	353229898	01686	1016	300	101	401	1
SHERMAN KAY	F	263285088	09016	1052	300	050	350	3
FITZ JERALDINE	F	554963867	07396	1041	300	121	421	2
FAYN CHUCK	M	312328179	12172	0576	400	100	500	4
STRAIN VERN	M	366618777	17134	1056	300	100	400	2
WOLLER FRED A	M	623156645	16171	1850	350	028	378	2
RELLER LOUISE R	F	110634233	10777	0056	300	051	351	3
RICE RICK B	M	134489223	17617	1025	300	105	405	4
ROTH BERNIE P	M	513515551	17817	0065	300	083	383	2
ELM HEATHER	F	717817717	17427	1061	300	195	495	4
FANNIN JON F	M	212221122	17618	0065	300	000	300	1
MANDY DAN L	M	391139191	17032	1001	300	085	385	3
TENNIAL LEROY	M	17712365	17728	0154	300	105	405	4
LUTHER TINA T	F	363155869	17019	0011	300	100	400	2
TAPPEN STAN P	M	324548445	17610	1011	300	075	375	3
NICHOLAS BROCK	M	703429783	17095	0766	300	100	400	1

Accounts Payable Data and the Card Field

Vendor	Warrant Number	Purchase Order	Invoice Number	Account Number	Location	Warrant Number
05-3614	36954	156931	67494	71563	63	4798.35
14-5006	15635	111175	57550	12420	"	11201.50
86-4050	62502	239025	98345	16750	"	12310.25
10-3155	70615	325452	10262	13282	"	9345.00
78-9501	11880	789557	39855	15758	"	11880.27
22-1964	14956	257239	75206	10402	"	3985.00
34-9650	39573	116760	08414	11348	"	893.34
85-6813	76495	918637	11945	70911	"	12321.19
13-4165	19835	432123	55001	32133	"	3147.88
47-6810	41112	656913	71215	17484	"	223.95
35-2119	24159	713409	12853	11126	56	1727.14
19-6512	41724	580984	14409	11809	"	3797.74
55-6955	37225	784640	12239	72458	"	128.53
11-2963	92435	113928	12392	92859	"	8741.43
22-0912	18532	854173	69689	14395	"	9285.96
11-1250	31672	121107	51018	10051	"	167.25
41-1052	61688	272057	62624	00838	"	14662.84
72-3086	29718	927181	28843	69227	"	782.42
80-3896	54117	823893	01512	77550	"	8238.93
24-2724	40049	181665	20331	55055	"	93.83
92-3467	72803	211383	12132	76432	"	4728.00
17-1145	82389	101542	21775	88243	"	971.81
45-2332	15632	837261	67157	54041	"	31837.64
37-7874	62267	137968	83881	24245	"	542.42
83-7266	12763	983726	77873	17632	"	41.20
77-3873	37916	831811	24524	72392	"	1276.39
52-0980	79320	782074	18493	56548	13	685.92
14-5217	54769	319012	61140	84109	"	72483.47
27-2026	87939	135328	28943	18705	"	357.92
08-8326	71083	228107	56202	65781	"	1982.67
42-9112	21114	750272	29321	72296	"	112.09
01-5513	65914	254243	55893	85715	"	3104.29
41-6005	06355	279070	45153	51870	"	91693.39

Card Field	Columns	
	From	To
Vendor Number	2	7
Warrant Number	14	18
Purchase Order	24	29
Invoice Number	50	54
Account Number	56	60
Location	62	63
Warrant Account	67	74
Date	75	80

CRITERIA OF ACCEPTABLE PERFORMANCE:

1. Each of the columns must be identified by number with 100 percent accuracy.

2. Each of the fields must be defined with 100 percent accuracy.

TASK:

The student will enter data.

CONDITIONS AND LIMITATIONS:

The student, given an Apple or Apple Compatible Computer, a single disk drive, a monitor, four jobs with six original records, and the Data Entry Exercise Program, will (1) boot the system, (2) log on, (3) select from the job menu, option 2, INITIATE EXERCISES, (4) enter the job number of the original dates, (5) enter the start time, (6) enter data from the original form, (7) enter the time of completion and (8) select, option 3, LOG OFF. Tasks are to be completed within 15 minutes.

DATA ENTRY EXERCISE PROGRAM

The following program must be entered to a disk *or* a duplicate may be obtained by sending a blank disk to E.S.U. #6, Milford, NE 68405. The master disk from E.S.U. #6 should be copied and kept as a backup.

Operational Procedures for the Instructor

1. If the program is entered to a disk, the file initiator program must be entered and run prior to the exercise program.
2. Boot the system.
3. Select control, shift and M to access instructor menu.
4. Select option 1 of instructor menu.
5. Enter master job number from original data.
6. Enter data from original data. Data must be entered with 100 percent accuracy as this will serve as the master against which the student's work is compared.
7. Select from instructor menu Number 1 to enter or change jobs, Number 2 to display master data, or Number 3 to end session.
8. Log off the system to store the data.
   NOTE: Control D may be used to display catalog.
9. Students may enter data at this point. (Students must log off the system to store the data.)
10. To check/grade student's data entry, enter control shift M-instructor menu.
11. Select Option 3 and enter job number to be checked/graded.
12. Enter student name to display student data and master data with statement of number of errors and time.
13. To restart the system, enter the instructor menu control shift M and press control R. This will destroy all student files and save all master jobs.

CRITERIA OF ACCEPTABLE PERFORMANCE:

1. All data must be entered with 100 percent accuracy.
2. All tasks must be completed within the time limit.

IRA
NEW BENEFICIARY

Bank No. (cc 7-9): 000
Account Number (cc 10-16): 1468920

☐ IRA105 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Name (cc 17-46): JOHN JAY CHARLES

☐ IRA106 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Address - For One Line Addresses (cc 47-76): 2101 SOUTH 45

Beneficiary Address - For Two Line Addresses (cc 17-46):

Beneficiary City (cc 47-60): LINCOLN
State (cc 61-62): NE
Zip Code (cc 65-69): 68506

Beneficiary Social Security No. (cc 70-78): 504864123

39

40

COMPETENCY NO. 2
Job No. 1
Record No. 1

IRA
NEW BENEFICIARY

Bank No. (cc 7-9): 000

Account Number (cc 10-16): 3810279 0

☐ IRA105 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Name (cc 17-46): ELIZABETH MARIE MARSHALL

☐ IRA106 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Address - For One Line Addresses (cc 47-76): 8040 HAYS DRIVE

Beneficiary Address - For Two Line Addresses (cc 17-46):

Beneficiary City (cc 47-59): LINCOLN

State (cc 61-62): NE

Zip Code (cc 65-69): 68505

Beneficiary Social Security No. (cc 70-78): 507181529

41

41

42

COMPETENCY NO. 2
Job No. 1
Record No. 2

IRA
NEW BENEFICIARY

Bank No. (cc 7-9): 000

Account Number (cc 10-16): 628914 0

☐ IRA105 (cc 1-6) Duplicate (cc 7-16)

☐ IRA106 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Name (cc 17-46): SAMUEL BRYON BUSHNELL

Beneficiary Address - For One Line Addresses (cc 47-76): 420 MURDOCK AVENUE

Beneficiary Address - For Two Line Addresses (cc 17-46):

Beneficiary City (cc 47-59): OMAHA

State (cc 61-62): NE

Zip Code (cc 65-69): 68137

Beneficiary Social Security No. (cc 70-78): 515290304

42

43

44

COMPETENCY NO. 2
Job No. 1
Record No. 3

IRA
NEW BENEFICIARY

Bank No. (cc 7-9): 000

Account Number (cc 10-16): 642357 0

☐ IRA105 cc 1-6 — Duplicate cc 7-16

Beneficiary Name (cc 17-46): GEORGE JOHN JACOBS

☐ IRA106 cc 1-6 — Duplicate cc 7-16

Beneficiary Address - For One Line Addresses (cc 47-76): 1257 NORTH HAMPTON ROAD

Beneficiary Address - For Two Line Addresses (cc 17-46):

Beneficiary City (cc 47-59): YORK

State (cc 61-62): NE

Zip Code (cc 65-69): 68467

Beneficiary Social Security No. (cc 70-78): 501176205

43

COMPETENCY NO. 2
Job No. 1
Record No. 4

IRA
NEW BENEFICIARY

Bank No. cc 7-9: 000

Account Number cc 10-16: 4642810

0

☐ IRA105 cc 1-6 Duplicate cc 7-16

Beneficiary Name cc 17-46: MELINDA MARGARET RITCHEY

☐ IRA106 cc 1-6 Duplicate cc 7-16

Beneficiary Address - For One Line Addresses cc 47-76: 527 ROGERS LANE

44

Beneficiary Address - For Two Line Addresses cc 17-46:

Beneficiary City cc 47-59: OMAHA

State cc 61-62: NE

Zip Code cc 65-69: 68141

Beneficiary Social Security No. cc 70-78: 506174210

47

48

COMPETENCY NO. 2
Job No. 1
Record No. 5

IRA
NEW BENEFICIARY

Bank No. (cc 7-9): 000

Account Number (cc 10-16): 472964 0

☐ IRA103 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Name (cc 17-46): THOMAS RAY TYLER

☐ IRA106 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Address - For One Line Addresses (cc 47-76): RR BOX 30

Beneficiary Address - For Two Line Addresses (cc 17-46):

Beneficiary City (cc 47-59): AURORA

State (cc 61-62): NE

Zip Code (cc 65-69): 68818

Beneficiary Social Security No. (cc 70-78): 502147211

45

COMPETENCY NO. 2
Job No. 1
Record No. 6

IRA
NEW BENEFICIARY

Bank No. (cc 7-9): 000

Account Number (cc 10-16): 2805370

☐ IRA105 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Name (cc 17-46): MARTHA MARY ZEMAN

☐ IRA106 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Address - For One Line Addresses (cc 47-76): 1217 SOUTH 24

Beneficiary Address - For Two Line Addresses (cc 17-46):

Beneficiary City (cc 47-59): LINCOLN

State (cc 61-62): NE

Zip Code (cc 65-69): 68502

Beneficiary Social Security No. (cc 70-78): 504097344

46

51

52

COMPETENCY NO. 2
Job No. 2
Record No. 1

IRA
NEW BENEFICIARY

Bank No. (cc 7-9): 000

Account Number (cc 10-16): 6402280

☐ IRA105 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Name (cc 17-46): RICHARD MICHAEL MEIER

☐ IRA106 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Address - For One Line Addresses (cc 47-76):

Beneficiary Address - For Two Line Addresses (cc 17-46): 5551 NORTH 117

Beneficiary City (cc 47-60): OMAHA

State (cc 61-62): NE

Zip Code (cc 65-69): 68149

Beneficiary Social Security No. (cc 70-78): 501084752

47

53

54

COMPETENCY NO. 2
Job No. 2
Record No. 2

IRA
NEW BENEFICIARY

Bank No. (cc 7-9): 000

Account Number (cc 10-16): 3406114 0

☐ IRA105 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Name (cc 17-46): BRUCE ARNOLD PARKER

☐ IRA106 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Address - For One Line Addresses (cc 47-76): 620 BRADFORD

48

Beneficiary Address - For Two Line Addresses (cc 17-46):

Beneficiary City (cc 47-59): LINCOLN

State (cc 61-62): NE

Zip Code (cc 65-69): 68503

Beneficiary Social Security No. (cc 70-78): 502431768

55

56

COMPETENCY NO. 2
Job No. 2
Record No. 3

IRA
NEW BENEFICIARY

Bank No. (cc 7-9): 000

Account Number (cc 10-16): 2501401 0

☐ IRA105 cc 1-5 Duplicate cc 7-16

Beneficiary Name (cc 17-46): TRICIA MARIE TRACEY

☐ IRA106 cc 1-6 Duplicate cc 7-16

Beneficiary Address - For One Line Addresses (cc 47-76): 435 NORTH 66

Beneficiary Address - For Two Line Addresses (cc 17-46):

Beneficiary City (cc 47-59): OMAHA

State (cc 61-62): NE

Zip Code (cc 65-69): 68137

Beneficiary Social Security No. (cc 70-78): 504270114

49

COMPETENCY NO. 2
Job No. 2
Record No. 4

IRA
NEW BENEFICIARY

Bank No. (cc 7-9): 000

Account Number (cc 10-16): 4219717 0

☐ IRA105 cc 1-6 Duplicate cc 7-16

Beneficiary Name (cc 17-46): IMOGENE LEAH LOCKHARDT

☐ IRA106 cc 1-6 Duplicate cc 7-16

Beneficiary Address - For One Line Addresses (cc 47-76): 20710 SPRUCE DRIVE

50

Beneficiary Address - For Two Line Addresses (cc 17-46):

Beneficiary City (cc 47-59): BEATRICE

State (cc 61-62): NE

Zip Code (cc 65-69): 68310

Beneficiary Social Security No. (cc 70-78): 505621225

59

60

COMPETENCY NO. 2
Job No. 2
Record No. 5

IRA
NEW BENEFICIARY

Bank No. (cc 7-9): 000

Account Number (cc 10-16): 3415940

☐ IRA105 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Name (cc 17-46): WILLIAM JAY HOLMES

☐ IRA106 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Address - For One Line Addresses (cc 47-76): 6210 MADISON

Beneficiary Address - For Two Line Addresses (cc 17-46):

Beneficiary City (cc 47-59): LINCOLN

State (cc 61-62): NE

Zip Code (cc 65-69): 68505

Beneficiary Social Security No. (cc 70-78): 512140505

51

61

62

COMPETENCY NO. 2
Job No. 2
Record No. 6

IRA
NEW BENEFICIARY

Bank No. (cc 7-9): 000

Account Number (cc 10-16): 3614072 0

☐ IRA105 (cc 1-6) Duplicate (cc 7-16)

☐ IRA106 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Name (cc 17-46): JOHN CLARK WESLEY

Beneficiary Address - For One Line Addresses (cc 47-76): 1414 RUTLAND

Beneficiary Address - For Two Line Addresses (cc 17-46):

Beneficiary City (cc 47-59): PAPILLION

State (cc 61-62): NE

Zip Code (cc 65-69): 68046

Beneficiary Social Security No. (cc 70-78): 505421714

62

63

64

COMPETENCY NO. 2
Job No. 3
Record No. 1

IRA
NEW BENEFICIARY

Bank No. (cc 7-9): 000

Account Number (cc 10-16): 32111612 0

IRA105 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Name (cc 17-46): BARBARA BETH MAYFIELD

IRA106 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Address - For One Line Addresses (cc 47-76): 7420 MITCHELL

Beneficiary Address - For Two Line Addresses (cc 17-46):

Beneficiary City (cc 47-59): GRAND ISLAND

State (cc 61-62): NE

Zip Code (cc 65-69): 68801

Beneficiary Social Security No. (cc 70-78): 502417007

53

65

66

COMPETENCY NO. 2
Job No. 3
Record No. 2

IRA
NEW BENEFICIARY

Bank No. (cc 7-9): 0 1 0 1 0

Account Number (cc 10-16): 4 6 1 3 8 5 0

☐ IRA105 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Name (cc 17-46): BRADI RUSSIELLI WILLIAMS

☐ IRA106 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Address - For One Line Addresses (cc 47-76): 1 6 0 2 CARTIER AVENUE

Beneficiary Address - For Two Line Addresses (cc 17-46):

Beneficiary City (cc 47-59): LINCOLN

State (cc 61-62): NE

Zip Code (cc 65-69): 6 8 5 0 4

Beneficiary Social Security No. (cc 70-78): 5 0 4 2 1 6 0 5 4

54

COMPETENCY NO. 2
Job No. 3
Record No. 3

IRA
NEW BENEFICIARY

Bank No. (cc 7-9): 000

Account Number (cc 10-16): 6415014 0

☐ IRA105 cc 1-6 — Duplicate cc 7-16

☐ IRA106 cc 1-6 — Duplicate cc 7-16

55

Beneficiary Name (cc 17-46): PATRICIA MAY GORKY

Beneficiary Address - For One Line Addresses (cc 47-76): 2024 NORTH LEBANON

Beneficiary Address - For Two Line Addresses (cc 17-46):

Beneficiary City (cc 47-59): COLUMBUS

State (cc 61-62): NE

Zip Code (cc 65-69): 68601

Beneficiary Social Security No. (cc 70-78): 506096409

COMPETENCY NO. 2
Job No. 3
Record No. 4

IRA
NEW BENEFICIARY

Bank No. cc 7-9: 000

Account Number cc 10-16: 4521803 0

☐ IRA105 cc 1-6 Duplicate cc 7-16

Beneficiary Name cc 17-46: TIMOTHY TYLER THOMAS

☐ IRA106 cc 1-6 Duplicate cc 7-16

Beneficiary Address - For One Line Addresses cc 47-76: 721 LEWIS

Beneficiary Address - For Two Line Addresses cc 17-46:

Beneficiary City cc 47-59: OMAHA

State cc 61-62: NE

Zip Code cc 65-69: 68127

Beneficiary Social Security No. cc 70-78: 501417614

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COMPETENCY NO. 2
Job No. 3
Record No. 5

IRA
NEW BENEFICIARY

Bank No. cc 7-9: 000

Account Number cc 10-16: 3741/0210

☐ IRA105 cc 1-6 Duplicate cc 7-16

Beneficiary Name cc 17-46: YOLANDA RUTH URLICH

☐ IRA106 cc 1-6 Duplicate cc 7-16

Beneficiary Address - For One Line Addresses cc 47-76:

Beneficiary Address - For Two Line Addresses cc 17-46: 4070 RAGLINE ROAD

Beneficiary City cc 47-59: RUSKIN

State cc 61-62: NE

Zip Code cc 65-69: 68974

Beneficiary Social Security No. cc 70-78: 509237641

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COMPETENCY NO. 2
Job No. 3
Record No. 6

IRA
NEW BENEFICIARY

Bank No. cc 7-9: 000

Account Number cc 10-16: 2380417 0

☐ IRA105 cc 1-6 — Duplicate cc 7-16

☐ IRA106 cc 1-6 — Duplicate cc 7-16

Beneficiary Name cc 17-46: LUCILLE LOUISE RILEY

Beneficiary Address - For One Line Addresses cc 47-76: 4701 MAGIC LANE

Beneficiary Address - For Two Line Addresses cc 17-46:

Beneficiary City cc 47-59: HASTINGS

State cc 61-62: NE

Zip Code cc 65-69: 68901

Beneficiary Social Security No. cc 70-78: 516 02 0417

58

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76

COMPETENCY NO. 2
Job No. 4
Record No. 1

IRA
NEW BENEFICIARY

Bank No. (cc 7-9): 000

Account Number (cc 10-16): 4208230

☐ IRA105 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Name (cc 17-46): VICTOR RAY MARKER

☐ IRA106 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Address - For One Line Addresses (cc 47-76): 210 THOMPSON

Beneficiary Address - For Two Line Addresses (cc 17-46):

Beneficiary City (cc 47-59): FAIRBURY

State (cc 61-62): NE

Zip Code (cc 65-69): 68352

Beneficiary Social Security No. (cc 70-78): 502014180

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COMPETENCY NO. 2
Job No. 4
Record No. 2

IRA
NEW BENEFICIARY

Bank No. (cc 7-9): 1000
Account Number (cc 10-16): 2485215 0

☐ IRA105 (cc 1-6) Duplicate (cc 7-16)

☐ IRA106 (cc 1-6) Duplicate (cc 7-16)

Beneficiary Name (cc 17-46): LUCIAS MATHEW LAINGFORD

Beneficiary Address - For One Line Addresses (cc 47-76): 451 1/1 CHARLESTON

Beneficiary Address - For Two Line Addresses (cc 17-46):

Beneficiary City (cc 47-59): LINCOLN
State (cc 61-62): NE
Zip Code (cc 65-69): 68502

Beneficiary Social Security No. (cc 70-78): 506214770

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COMPETENCY NO. 2
Job No. 4
Record No. 3

IRA
NEW BENEFICIARY

Bank No. cc 7-9: 0010

Account Number cc 10-16: 4151621210

☐ IRA105 cc 1-6 Duplicate cc 7-16

☐ IRA106 cc 1-6 Duplicate cc 7-16

Beneficiary Name cc 17-46: REBECCA KAY RODGERS

Beneficiary Address - For One Line Addresses cc 47-76: 1914 WOODLAND LANE

Beneficiary Address - For Two Line Addresses cc 17-46:

Beneficiary City cc 47-59: OMAHA

State cc 61-62: NE

Zip Code cc 65-69: 68144

Beneficiary Social Security No. cc 70-78: 506210710

81

COMPETENCY NO. 2
Job No. 4
Record No. 4

IRA
NEW BENEFICIARY

Bank No. cc 7-9: 000

Account Number cc 10-16: 6131474 0

☐ IRA105 cc 1-6 Duplicate cc 7-16

Beneficiary Name cc 17-46: JEFFERY JOE JELINEK

☐ IRA106 cc 1-6 Duplicate cc 7-16

Beneficiary Address - For One Line Addresses cc 47-76: 7001 MORSE

62

Beneficiary Address - For Two Line Addresses cc 17-46:

Beneficiary City cc 47-59: HOLDREGE

State cc 61-62: NE

Zip Code cc 65-69: 68949

Beneficiary Social Security No. cc 70-78: 507214055

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COMPETENCY NO. 2
Job No. 4
Record No. 5

IRA
NEW BENEFICIARY

Bank No. (cc 7-9): 0 0 0

Account Number (cc 10-16): 1 4 1 7 9 8 0

☐ IRA105 cc 1-6 Duplicate cc 7-16

☐ IRA106 cc 1-6 Duplicate cc 7-16

Beneficiary Name (cc 17-46): PAMELA JEAN TAYLOR

Beneficiary Address - For One Line Addresses (cc 47-76): 3712 SMITH FIELD

Beneficiary Address - For Two Line Addresses (cc 17-46):

Beneficiary City (cc 47-59): LINCOLN

State (cc 61-62): NE

Zip Code (cc 65-69): 68507

Beneficiary Social Security No. (cc 70-78): 516 19 2101

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COMPETENCY NO. 2
Job No. 4
Record No. 6

```
10  REM
20  DATA  "DATA ENTRY EXERCISE","STUDENT NAME:","CURRENT DATE:","JOB NUMBER:"
30  DATA   "DATA ENTRY JOB MENU","1. EXERCISE PREVIEW","2. INITIATE EXERCISE","3. IN
     STRUCTOR OPTIONS","3. LOGOFF"
40  DATA  "KEY IN SELECTION NUMBER","AND PRESS RETURN"
50  DATA  "IRA ACCOUNTS","*** ADD BENDFICIARY ***","IRA105 CODE:","IRA105","IRA106 C
     ODE","IRA106"
60  DATA  "BANK NUMBER:","ACCOUNT NUMBER:","BENEFICIARY NAME:","BENEFICIARY ADDRESS
     LINE 1:","*** OPERATOR ACTION REQUIRED ***"
70  DATA  "KEY IN DATA TO BE ADDED AND","PRESS RETURN"
80  DATA  "BENEFICIARY ADDRESS LINE 2:","STATE:","ZIP:","BENEFICIARY SOCIAL SECURITY
     :"
90  DATA    "EDIT PANEL","1. EDIT","2. CONTINUE","3. END SESSION","BENEFICIARY CITY:
     ","SELECT OPTION AND PRESS RETURN"
100  DATA        "INSTRUCTOR MENU","1. ENTER MASTER JOB(S)","2. DISPLAY MASTER JOB(S
     )" ,"3. DISPLAY STUDENT JOB","4. PRINTER CONDITION  "      ,"5. END SESSON"
110  REM
120  REM  SYS MAX JJ-10/IJ-20/CS-4
130  REM
140  REM
150  HOME : CLEAR :CH$ =  CHR$ (95)
160 JJ = 6:IJ = 20:CS = 80:N$ = "JOB":PC$ = "OFF"
170 MM$ = "MASTER":F1 = 0:F2 = 1:F4 = 0:F5 = 0
180  DIM S$(100),NA$(30),DD$(40),IJ$(10,JJ,IJ),SJ$(10,JJ,IJ),SN$(CS),TS$(IJ),TE$(IJ)
     ,CD$(IJ)
190 D$ =  CHR$ (4):O$ = "OPEN":C$ = "CLOSE":W$ = "WRITE":R$ = "READ"
200  FOR A = 1 TO 40: READ S$(A): NEXT
210  POKE 34,0: POKE 33,0: TEXT
220  PRINT D$;"NOMONOIC": HOME
230  POKE 40286,35: POKE 40287,216
240  ONERR  GOTO 4580
250  GOTO 3890
260  VTAB 23: HTAB 7: PRINT "PRESS SPACE BAR TO CONTINUE": POKE  - 16368,0
270  IF  PEEK ( - 16384) < 128 THEN 270
280  IF  PEEK ( - 16384) - 128 = 32 THEN 300
290  GOTO 260
300  POKE  - 16368,0: RETURN
310  GOTO 2540
320  IF A = LL AND SK = 1 THEN 640
330  IF A = LL THEN 350
340  POP : NEXT
350  VTAB VT: HTAB HT + A: GET F1$: PRINT DD$(LL)
360  IF  ASC (F1$) = 8 THEN  VTAB VT: HTAB HT + A: PRINT  CHR$ (95): POP : GOTO 430
370  IF  ASC (F1$) = 13 THEN  POP : GOTO 620
380  GOTO 320
390  REM  INPUT
400 DD$ = ""
410  FOR A = 1 TO LL: VTAB VT: HTAB HT + A: PRINT  CHR$ (95): NEXT
420  FOR A = 1 TO LL
430  VTAB VT: HTAB HT + A: GET DD$(A): PRINT DD$(A)
440  IF  ASC (DD$(A)) = 13 AND R = 1 THEN DD$(A) = "": GOTO 640
450  IF  ASC (DD$(A)) = 13 AND NR = 1 THEN 430
460  IF  ASC (DD$(A)) = 13 AND A > 1 THEN 620
470  IF  ASC (DD$(A)) = 13 THEN 410
480  IF  ASC (DD$(A)) = 32 AND A = 1 THEN 410
490  IF  ASC (DD$(A)) = 44 OR  ASC (DD$(A)) = 58 OR  ASC (DD$(A)) = 59 THEN  VTAB VT
     : HTAB HT + A: PRINT  CHR$ (95): GOTO 430
```

```
500  IF  ASC (DD$(A)) = 8 AND A > 1 THEN A = A - 1: VTAB VT: HTAB HT + A: PRINT  CHR$
     (95): GOTO 430
510  IF  ASC (DD$(A)) = 8 AND A = 1 THEN 410
520  ON AN GOTO 540,570,600
530  REM
540  IF  ASC (DD$(A)) < 32 OR  ASC (DD$(A)) > 90 THEN  VTAB VT: HTAB HT + A: PRINT  CHR$
     (95): GOTO 430
550  GOSUB 320
560  REM  NUMERIC
570  IF  ASC (DD$(A)) < 48 OR  ASC (DD$(A)) > 57 THEN  VTAB VT: HTAB HT + A: PRINT  CHR$
     (95): GOTO 430
580  GOSUB 320
590  REM  LETTERS
600  IF  ASC (DD$(A)) < 65 OR  ASC (DD$(A)) > 90 THEN  VTAB VT: HTAB HT + A: PRINT  CHR$
     (95): GOTO 430
610  GOSUB 320
620  IF A = LL AND  ASC (DD$(A)) <  > 13 THEN 640
630  GOTO 660
640  FOR B = 1 TO A:DD$ = DD$ + DD$(B): NEXT
650  GOTO 670
660  FOR B = 1 TO A - 1:DD$ = DD$ + DD$(B): NEXT
670  IF SK = 1 THEN  POP : RETURN
680  RETURN
690  REM  PRINTER
700 PC$ = "OFF"
710  IF PS > 0 THEN PC$ = "ON"
720  HOME : VTAB 5: HTAB 5: PRINT " PRESENT PRINTER CONDITION IS ";: INVERSE : PRINT
     PC$;: NORMAL
730  VTAB 10: HTAB 5: PRINT "ENTERING 0 FOR PRINTER SLOT": VTAB 11: HTAB 5: PRINT "W
     ILL TURN THE PRINTER OFF"
740  VTAB 7: HTAB 1: PRINT "ENTER PRINTER SLOT THEN PRESS RETURN":VT = 7:HT = 38:LL =
     1:NR = 0:SK = 0:AN = 2: GOSUB 390:PS =  VAL (DD$): IF PS > 0 THEN PC$ = "ON"
750  IF PS = 0 THEN PC$ = "OFF"
760  RETURN
770  REM  CK FILES
780 N$ = "STUDENT": PRINT  CHR$ (13): PRINT D$O$N$: PRINT D$R$N$
790  FOR A = 1 TO CS: INPUT SN$(A)
800  IF SN$(A) = "END" THEN  PRINT D$C$N$: GOTO 820
810  NEXT
820  FOR B = 1 TO A
830  IF SN$(B) = NA$ THEN  RETURN
840  NEXT
850  IF M1 = 3 AND M2 = 3 THEN  POP : RETURN
860  IF A = 1 THEN SN$(A) = NA$
870 SN$(A) = NA$
880  PRINT D$O$N$: PRINT D$W$N$
890  FOR B = 1 TO A
900  PRINT SN$(B): NEXT
910  PRINT "END"
920  PRINT D$C$N$
930 N$ = NA$
940  PRINT D$O$N$: PRINT D$W$N$: PRINT "0": PRINT D$C$N$: RETURN
950  END
960  REM
970 F8 = 1
```

```
980 N$ = "JOB": GOSUB 2540: POKE 34,0: POKE 33,40: HOME : VTAB 5: HTAB 5: PRINT "ENT
    ER STUDENT NAME ": VTAB 8: HTAB 5: PRINT S$(11):VT = 7:HT = 5:AN = 1:NR = 0:SK =
    0:LL = 30: GOSUB 390:NA$ = DD$
990  IF NA$ = HN$ THEN 1020
1000 HN$ = NA$
1010  GOSUB 770:N$ = NA$:F6 = 1: GOSUB 1150
1020  GOSUB 1300
1030 Q = AA: PR# PS
1040  HOME : PRINT "STUDENT "NA$: PRINT "START " LEFT$ (TS$(Q),2) CHR$ (58) RIGHT$ (
    TS$(Q),2),"END " LEFT$ (TE$(Q),2) CHR$ (58) RIGHT$ (TE$(Q),2): PRINT "DATE "CD$
    (Q),JN$: POKE 34,4: HOME
1050  FOR A = 1 TO JJ
1060 PP = 0: PR# PS
1070  FOR B = 2 TO 10
1080  IF IJ$(B,A,QQ) <  > SJ$(B,A,Q) THEN PP = PP + 1
1090  INVERSE : PRINT "MASTER  "IJ$(B,A,QQ): NORMAL : PRINT "STUDENT "SJ$(B,A,Q): NEXT
1100  VTAB 4: HTAB 1: CALL  - 868: PRINT "RECORD "A,"ERRORS "PP
1110  PR# 0
1120  IF PS > 0 THEN  HOME : NEXT : RETURN
1130  GOSUB 260: HOME : NEXT
1140  RETURN
1150  REM  DATA FROM DISK
1160  IF M1 = 2 AND F1 = 1 THEN N$ = NA$
1170  PRINT  CHR$ (13)
1180  PRINT D$O$N$: PRINT D$R$N$: INPUT IJ
1185  IF IJ = 20 THEN  HOME : END
1190  IF N$ <  > "JOB" THEN JS = IJ
1200 II = IJ
1210  IF N$ = "JOB" THEN HC = IJ
1220  IF IJ = 0 THEN F2 = 0: PRINT D$C$N$: RETURN
1230  FOR A = 1 TO II
1240  IF N$ <  > "JOB" THEN  INPUT CD$(A): INPUT TS$(A): INPUT TE$(A)
1250  FOR J = 1 TO JJ
1260  FOR B = 1 TO 10
1270  IF M1 = 3 AND M2 = 3 AND F6 = 1 THEN  INPUT SJ$(B,J,A): NEXT : NEXT : NEXT : GOTO
    1290
1280  INPUT IJ$(B,J,A): NEXT : NEXT : NEXT
1290 F2 = 0:IJ = HC: PRINT D$C$N$: RETURN
1300  REM  STUDENT CHECK
1310  FOR AA = 1 TO JS
1320  IF SJ$(1,1,AA) = JN$ THEN  RETURN
1330  IF JS = 0 THEN  POP : RETURN
1340  NEXT : HOME : VTAB 10: PRINT JN$" DOES NOT EXIST IN": VTAB 11: PRINT NA$"'S FI
    LE": VTAB 20: HTAB 20 -  LEN (S$(22)) / 2: PRINT S$(22): GOSUB 260: POP : RETURN
1350  REM  CHECK
1360  IF M2 = 1 OR M2 = 2 THEN F9 = 1
1370  FOR AA = 1 TO IJ
1380 QQ = AA
1390  IF IJ$(1,1,AA) = JN$ THEN 1440
1400  NEXT
1410  IF M1 = 3 AND M2 = 2 THEN  POP : POP : RETURN
1420  IF M1 = 3 AND M2 = 3 THEN  POP : POP : RETURN
1430 IJ = IJ + 1:JI = IJ: RETURN
1440  IF M1 = 3 AND M2 = 2 THEN  RETURN
1450  IF M1 = 3 AND M2 = 3 THEN  POP : RETURN
```

```
1460  HOME : VTAB 10: HTAB 5: PRINT JN$" ALREADY EXISTS": VTAB 11: HTAB 5: PRINT "DO
      YOU WISH TO REPLACE IT?": VTAB 14: HTAB 20 -  LEN (S$(22)) / 2: PRINT S$(22)
1470  VTAB 16: HTAB 5: PRINT S$(10): VTAB 17: HTAB 5: PRINT S$(11)
1480  VTAB 19: HTAB 5: PRINT "1. REPLACE": VTAB 20: HTAB 5: PRINT "2. ABORT"
1490 VT = 16:HT = 30:LL = 1:AN = 2:SK = 0:AN = 1: GOSUB 390
1500  IF  ASC (DD$) = 49 THEN JI = AA: RETURN
1510  IF  ASC (DD$) = 50 THEN  POP : RETURN
1520  REM  DATA TO DISK
1530  IF M2 = 5 AND F2 = 1 THEN 1680
1540  IF M2 = 5 AND MH = 2 OR M2 = 5 AND MH = 1 THEN 1590
1550  IF M2 = 5 AND MH = 3 THEN 1680
1560  IF M1 = 1 AND M2 = 0 OR M1 = 3 AND R1 = 0 THEN 1680
1570  IF M1 = 3 AND M2 = 3 THEN 1680
1580  IF M1 = 3 AND M2 = 4 THEN 1680
1590  PRINT  CHR$ (13): PRINT D$O$N$: PRINT D$W$N$
1600  PRINT IJ
1610  FOR A = 1 TO IJ
1620  IF N$ <  > "JOB" THEN  PRINT CD$(A): PRINT TS$(A): PRINT TE$(A)
1630  FOR B = 1 TO JJ
1640  FOR C = 1 TO 10
1650  PRINT IJ$(C,B,A): NEXT : NEXT : NEXT
1660  PRINT D$C$N$
1670  POKE 40286,60: POKE 40287,212
1680  HOME : VTAB 10: HTAB 15: PRINT "THANK YOU"
1690  END
1700  REM  STUDENT TIME
1710 R1 = 1
1720  IF F3 = 0 THEN T3$ = "START"
1730  IF F3 = 1 THEN T3$ = "END"
1740  HOME : VTAB 10: HTAB 20 -  LEN (S$(22)) / 2: PRINT S$(22): VTAB 12: HTAB 5: PRINT
      S$(23): VTAB 13: HTAB 5: PRINT S$(24)
1750  VTAB 5: HTAB 25: PRINT  CHR$ (58)
1760 DD$ = "":T1$ = ""
1770  VTAB 5: HTAB 5: PRINT "ENTER "T3$" TIME ":VT = 5:HT = 22:LL = 2:NR = 1:AN = 2:
      SK = 1: GOSUB 390
1780 T1$ = DD$: VTAB 5: HTAB 25: PRINT  CHR$ (58):VT = 5:HT = 25:LL = 2:SK = 0:AN =
      2:NR = 1: GOSUB 390:T2$ = DD$
1790  VTAB 12: HTAB 1: CALL  - 868: VTAB 10: HTAB 20 -  LEN (S$(22)) / 2: PRINT S$(2
      2): VTAB 12: HTAB 20 -  LEN (S$(10)) / 2: PRINT S$(10): VTAB 13: HTAB 5: PRINT
      S$(11): VTAB 15: HTAB 5: PRINT "1. DATA CORRECT"
1800  VTAB 16: HTAB 5: PRINT "2. DATA INCORRECT":VT = 13:HT = 30:AN = 2:NR = 1:SK =
      0:LL = 1: GOSUB 390
1810  IF  ASC (DD$) = 50 THEN 1700
1820  IF  ASC (DD$) = 49 THEN 1840
1830  GOTO 1790
1840  IF F3 = 0 THEN TS$(JI) = T1$ + T2$: RETURN
1850  IF F3 = 1 THEN TE$(JI) = T1$ + T2$:CD$(JI) = CD$: RETURN
1860  END
1870  REM  PREVIEW SCREEN 1
1880 F4 = 1
1890  HOME : VTAB 1: HTAB 17: INVERSE : PRINT "SCREEN 1": NORMAL
1900  VTAB 3: HTAB 20 -  LEN (S$(12)) / 2: PRINT S$(12): VTAB 4: HTAB 20 -  LEN (S$(
      13)) / 2: PRINT S$(13): VTAB 6: HTAB 5: PRINT S$(14): VTAB 6: HTAB 25: PRINT S$
      (15): VTAB 7: HTAB 5: PRINT S$(18)
```

```
1910  VTAB 8: HTAB 5: PRINT S$(19): VTAB 9: HTAB 5: PRINT S$(20): VTAB 11: HTAB 5: PRINT
      S$(21): VTAB 14: HTAB 20 -  LEN (S$(22)) / 2: PRINT S$(22): VTAB 16: HTAB 5: PRINT
      S$(23): VTAB 17: HTAB 10: PRINT S$(24)
1920  FOR A = 1 TO 3: VTAB 7: HTAB 24 + A: PRINT CH$: NEXT
1930  FOR A = 1 TO 7: VTAB 8: HTAB 24 + A: PRINT CH$: NEXT
1940  FOR A = 1 TO 30: VTAB 10: HTAB 9 + A: PRINT CH$: NEXT
1950  FOR A = 1 TO 30: VTAB 12: HTAB 9 + A: PRINT CH$: NEXT
1960  FOR A = 1 TO 1000: NEXT
1970  GOSUB 260
1980  REM  PREVIEW SCREEN 2
1990  HOME : VTAB 1: HTAB 17: INVERSE : PRINT "SCREEN 2": NORMAL
2000  VTAB 3: HTAB 20 -  LEN (S$(12)) / 2: PRINT S$(12): VTAB 4: HTAB 20 -  LEN (S$(
      13)) / 2: PRINT S$(13): VTAB 6: HTAB 5: PRINT S$(16): VTAB 6: HTAB 25: PRINT S$
      (17): VTAB 7: HTAB 5: PRINT S$(18)
2010  VTAB 8: HTAB 5: PRINT S$(19): VTAB 9: HTAB 5: PRINT S$(25): VTAB 11: HTAB 5: PRINT
      S$(33)
2020  VTAB 13: HTAB 5: PRINT S$(26); TAB( 20)S$(27)
2030  VTAB 14: HTAB 5: PRINT S$(28)
2040  FOR A = 1 TO 30: VTAB 10: HTAB 9 + A: PRINT CH$: NEXT
2050  FOR A = 1 TO 13: VTAB 12: HTAB 9 + A: PRINT CH$: NEXT
2060  FOR A = 1 TO 2: VTAB 13: HTAB 12 + A: PRINT CH$: NEXT
2070  FOR A = 1 TO 6: VTAB 13: HTAB 25 + A: PRINT CH$: NEXT
2080  VTAB 15: HTAB 10: PRINT CH$;CH$;CH$; CHR$ (32);CH$;CH$; CHR$ (32);CH$;CH$;CH$;
      CH$
2090  VTAB 17: HTAB 20 -  LEN (S$(22)) / 2: PRINT S$(22): VTAB 19: HTAB 5: PRINT S$(
      23): VTAB 20: HTAB 10: PRINT S$(24)
2100  FOR A = 1 TO 1000: NEXT
2110  GOSUB 260
2120  REM  PREVIEW EDIT SCREEN
2130  HOME : HTAB 18: INVERSE : PRINT "EDIT SCREEN": NORMAL
2140  VTAB 3: HTAB 5: PRINT S$(18): VTAB 4: HTAB 5: PRINT S$(19): VTAB 5: HTAB 5: PRINT
      S$(20): VTAB 7: HTAB 5: PRINT S$(21): VTAB 9: HTAB 5: PRINT S$(25): VTAB 11: HTAB
      5: PRINT S$(33):
2150  VTAB 13: HTAB 5: PRINT S$(26); TAB( 20)S$(27): VTAB 14: HTAB 5: PRINT S$(28)
2160  VTAB 17: HTAB 20 -  LEN (S$(22)) / 2: PRINT S$(22): VTAB 18: HTAB 20 -  LEN (S
      $(10)) / 2: PRINT S$(10): VTAB 19: HTAB 10: PRINT S$(11)
2170  FOR A = 1 TO 3: VTAB 3: HTAB 25 + A: PRINT CH$: NEXT
2180  FOR A = 1 TO 6: VTAB 4: HTAB 25 + A: PRINT CH$: NEXT
2190  FOR A = 1 TO 30: VTAB 6: HTAB 9 + A: PRINT CH$: NEXT
2200  FOR A = 1 TO 30: VTAB 8: HTAB 9 + A: PRINT CH$: NEXT
2210  FOR A = 1 TO 30: VTAB 10: HTAB 9 + A: PRINT CH$: NEXT
2220  FOR A = 1 TO 13: VTAB 12: HTAB 9 + A: PRINT CH$: NEXT
2230  FOR A = 1 TO 2: VTAB 13: HTAB 12 + A: PRINT CH$: NEXT
2240  FOR A = 1 TO 6: VTAB 13: HTAB 25 + A: PRINT CH$: NEXT
2250  VTAB 15: HTAB 10: PRINT CH$;CH$;CH$; CHR$ (32);CH$;CH$; CHR$ (32);CH$;CH$;CH$;
      CH$
2260  VTAB 20: HTAB 4: PRINT S$(30); TAB( 14)S$(31)
2270  VTAB 19: HTAB 30: PRINT  CHR$ (91) CHR$ (32) CHR$ (93)
2280  FOR A = 1 TO 1000: NEXT
2290  GOSUB 260
2300  RETURN
2310  REM  INST MENU
2320  REM  CODE
2330  POKE 34,0: POKE 33,40
```

```
2340  HOME : VTAB 1: HTAB 20 -  LEN (S$(35)) / 2: PRINT S$(35): VTAB 3: HTAB 5: PRINT
      S$(36): VTAB 5: HTAB 5: PRINT S$(37): VTAB 7: HTAB 5: PRINT S$(38): VTAB 9: HTAB
      5: PRINT S$(39): VTAB 11: HTAB 5: PRINT S$(40)
2350  VTAB 3: HTAB 5: PRINT S$(36): VTAB 5: HTAB 5: PRINT S$(37): VTAB 7: HTAB 5: PRINT
      S$(38): VTAB 9: HTAB 5: PRINT S$(39);: INVERSE : PRINT PC$;: NORMAL
2360  VTAB 13: HTAB 20 -  LEN (S$(22)) / 2: PRINT S$(22): VTAB 15: HTAB 20 -  LEN (S
      $(10)) / 2: PRINT S$(10): VTAB 16: HTAB 10: PRINT S$(11): VTAB 16: HTAB 30: PRINT
      CHR$ (91); CHR$ (32); CHR$ (93)
2370  VTAB 16: HTAB 31: GET AS$
2375  IF  ASC (AS$) = 18 THEN  VTAB 22: PRINT : VTAB 22: PRINT D$;"RUN RESTART"
2380  IF  ASC (AS$) = 4 THEN : HOME : PRINT  CHR$ (13): PRINT D$;"CATALOG": GOSUB 26
      0: GOTO 2310
2390  VTAB 16: HTAB 31: PRINT AS$
2400  VTAB 16: HTAB 31: GET SA$
2410  IF  ASC (SA$) <  > 13 THEN 2360
2420  IF  VAL (AS$) = 1 OR  VAL (AS$) = 2 OR  VAL (AS$) = 3 OR  VAL (AS$) = 4 OR  VAL
      (AS$) = 5 THEN 2450
2430  IF  ASC (AS$) > 0 THEN 2360
2440  GOTO 2360
2450 M2 =  VAL (AS$)
2460  IF F8 = 1 AND M2 = 3 THEN 2510
2470  IF F8 = 1 AND M2 < 3 THEN 2310
2480  IF F9 = 1 AND M2 = 3 THEN 2310
2490  IF MH > 0 THEN 2510
2500 MH = M2
2510  ON  VAL (AS$) GOSUB 2540,3720,960,690,2530
2520  GOTO 2310
2530  POP : RETURN
2540  REM  DATA FILE START
2550  IF F2 = 1 THEN  GOSUB 1150
2560 F9 = 1
2570  IF M1 = 2 AND M2 = 0 THEN MM$ = "STUDENT"
2580  POKE 34,0: TEXT : HOME : VTAB 5: HTAB 5: PRINT "ENTER "MM$"  JOB NUMBER"
2590  VTAB 6: HTAB 5: PRINT S$(11)
2600 VT = 6:HT = 24:LL = 2:NR = 1:AN = 2:SK = 0: GOSUB 390
2610 JN$ = "JOB " + DD$:J = 0: GOSUB 1350
2620  IF M1 = 2 AND M2 = 0 THEN  GOSUB 1700
2630  REM
2640  IF M1 = 3 AND M2 = 2 THEN  RETURN
2650  POKE 34,0: POKE 33,40: HOME
2660  IF M1 = 2 AND M2 = 0 THEN J = J + 1: GOTO 2680
2670 J = J + 1: PRINT "ENTERING MASTER RECORD "J;"  FOR "JN$: POKE 34,1
2680 DD$ = "":SK = 0:R = 0: HOME
2690  VTAB 3: HTAB 20 -  LEN (S$(12)) / 2: PRINT S$(12): VTAB 4: HTAB 20 -  LEN (S$(
      13)) / 2: PRINT S$(13): VTAB 6: HTAB 5: PRINT S$(14): VTAB 6: HTAB 25: PRINT S$
      (15): VTAB 7: HTAB 5: PRINT S$(18)
2700  VTAB 8: HTAB 5: PRINT S$(19): VTAB 9: HTAB 5: PRINT S$(20): VTAB 11: HTAB 5: PRINT
      S$(21): VTAB 14: HTAB 20 -  LEN (S$(22)) / 2: PRINT S$(22): VTAB 16: HTAB 5: PRINT
      S$(23): VTAB 17: HTAB 10: PRINT S$(24)
2710  FOR A = 1 TO 3: VTAB 7: HTAB 24 + A: PRINT CH$: NEXT
2720  FOR A = 1 TO 7: VTAB 8: HTAB 24 + A: PRINT CH$: NEXT
2730  FOR A = 1 TO 30: VTAB 10: HTAB 9 + A: PRINT CH$: NEXT
2740  FOR A = 1 TO 30: VTAB 12: HTAB 9 + A: PRINT CH$: NEXT
2750 LL = 3:VT = 7:HT = 24:NR = 1:AN = 2: GOSUB 390
2760 B$ = DD$
```

```
2770 LL = 7:VT = 8:HT = 24:NR = 1:AN = 2: GOSUB 390
2780 AN$ = DD$
2790 LL = 30:VT = 10:HT = 9:NR = 0:AN = 1: GOSUB 390
2800 BN$ = DD$
2810 LL = 30:VT = 12:HT = 9:NR = 0:AN = 1:R = 1: GOSUB 390
2820 A1$ = DD$
2830  REM  SCREEN 2 INPUT
2840  HOME
2850  VTAB 3: HTAB 20 -  LEN (S$(12)) / 2: PRINT S$(12): VTAB 4: HTAB 20 -  LEN (S$(
      13)) / 2: PRINT S$(13): VTAB 6: HTAB 5: PRINT S$(16): VTAB 6: HTAB 25: PRINT S$
      (17): VTAB 7: HTAB 5: PRINT S$(18)
2860  VTAB 8: HTAB 5: PRINT S$(19): VTAB 9: HTAB 5: PRINT S$(25): VTAB 11: HTAB 5: PRINT
      S$(33)
2870  VTAB 13: HTAB 5: PRINT S$(26); TAB( 20)S$(27)
2880  VTAB 14: HTAB 5: PRINT S$(28)
2890  VTAB 7: HTAB 25: PRINT B$: VTAB 8: HTAB 25: PRINT AN$
2900  FOR A = 1 TO 30: VTAB 10: HTAB 9 + A: PRINT CH$: NEXT
2910  FOR A = 1 TO 13: VTAB 12: HTAB 9 + A: PRINT CH$: NEXT
2920  FOR A = 1 TO 2: VTAB 13: HTAB 12 + A: PRINT CH$: NEXT
2930  FOR A = 1 TO 5: VTAB 13: HTAB 25 + A: PRINT CH$: NEXT
2940  VTAB 15: HTAB 10: PRINT CH$;CH$;CH$; CHR$ (32);CH$;CH$; CHR$ (32);CH$;CH$;CH$;
      CH$
2950  VTAB 17: HTAB 20 -  LEN (S$(22)) / 2: PRINT S$(22): VTAB 19: HTAB 5: PRINT S$(
      23): VTAB 20: HTAB 10: PRINT S$(24)
2960 VT = 10:HT = 9:LL = 30:NR = 0:AN = 1: GOSUB 390
2970 A2$ = DD$:R = 0
2980 VT = 12:HT = 9:LL = 13:NR = 0:AN = 3: GOSUB 390
2990 CT$ = DD$
3000 VT = 13:HT = 12:LL = 2:NR = 1:AN = 3: GOSUB 390
3010 ST$ = DD$
3020 VT = 13:HT = 25:LL = 5:NR = 1:AN = 2: GOSUB 390
3030 ZP$ = DD$
3040 VT = 15:HT = 9:LL = 3:NR = 1:AN = 2:SK = 1: GOSUB 390
3050 S1$ = DD$
3060 VT = 15:HT = 13:LL = 2:NR = 1:AN = 2: GOSUB 390
3070 S2$ = DD$
3080 VT = 15:HT = 16:LL = 4:NR = 1:AN = 2:SK = 0: GOSUB 390
3090 SS$ = S1$ + " " + S2$ + " " + DD$
3100  REM  INPUT EDIT SCREEN
3110  HOME
3120  VTAB 3: HTAB 5: PRINT S$(18): VTAB 4: HTAB 5: PRINT S$(19): VTAB 5: HTAB 5: PRINT
      S$(20): VTAB 7: HTAB 5: PRINT S$(21): VTAB 9: HTAB 5: PRINT S$(25): VTAB 11: HTAB
      5: PRINT S$(33):
3130  VTAB 13: HTAB 5: PRINT S$(26); TAB( 20)S$(27): VTAB 14: HTAB 5: PRINT S$(28)
3140  VTAB 17: HTAB 20 -  LEN (S$(22)) / 2: PRINT S$(22): VTAB 18: HTAB 20 -  LEN (S
      $(10)) / 2: PRINT S$(10): VTAB 19: HTAB 10: PRINT S$(11)
3150  VTAB 20: HTAB 4: PRINT S$(30); TAB( 14)S$(31)
3160  INVERSE
3170  VTAB 3: HTAB 24: PRINT B$: VTAB 4: HTAB 24: PRINT AN$: VTAB 6: HTAB 11: PRINT
      BN$: VTAB 8: HTAB 11: PRINT A1$: VTAB 10: HTAB 11: PRINT A2$: VTAB 12: HTAB 11:
      PRINT CT$
3180  VTAB 13: HTAB 11: PRINT ST$: VTAB 13: HTAB 24: PRINT ZP$: VTAB 15: HTAB 11: PRINT
      SS$
3190  NORMAL
3200  VTAB 19: HTAB 30: PRINT  CHR$ (91) CHR$ (32) CHR$ (93)
```

```
3210  VTAB 19: HTAB 31: GET AS$: PRINT AS$
3220  VTAB 19: HTAB 31: GET SA$
3230  IF  ASC (SA$) = 8 THEN 3200
3240  IF  ASC (SA$) <  > 13 THEN 3220
3250  IF  ASC (AS$) = 49 OR  ASC (AS$) = 50 THEN 3270
3260  GOTO 3200
3270  ON  VAL (AS$) GOTO 3280,3640
3280  INVERSE : VTAB 3: HTAB 2: PRINT "1": VTAB 4: HTAB 2: PRINT "2": VTAB 5: HTAB 2
     : PRINT "3": VTAB 7: HTAB 2: PRINT "4": VTAB 9: HTAB 2: PRINT "5": VTAB 11: HTAB
     2: PRINT "6": VTAB 13: HTAB 2: PRINT "7"
3290  VTAB 13: HTAB 18: PRINT "8": VTAB 14: HTAB 2: PRINT "9": NORMAL
3300  VTAB 18: HTAB 1: CALL  - 868: VTAB 19: CALL  - 868: VTAB 20: CALL  - 868
3310  VTAB 18: HTAB 2: PRINT "ENTER NUMBER(S) OF LINES TO BE EDITED"
3320  VTAB 19: HTAB 10: PRINT "AND PRESS RETURN"
3330 VT = 20:HT = 5:LL = 9:NR = 0:AN = 2:SK = 0: GOSUB 390
3340 DD =  LEN (DD$)
3350 ES$ = DD$
3360  FOR D = 1 TO DD
3370 C =  VAL ( MID$ (ES$,D,1))
3380  ON C GOTO 3410,3430,3450,3470,3490,3510,3530,3550,3570
3390  IF D = DD THEN 3630
3400  NEXT
3410 VT = 3:HT = 23:LL = 3:NR = 1:AN = 2: GOSUB 390
3420 B$ = DD$: GOTO 3390
3430 VT = 4:HT = 23:LL = 7:NR = 1:AN = 2: GOSUB 390
3440 AN$ = DD$: GOTO 3390
3450 VT = 6:HT = 10:LL = 30:NR = 0:AN = 1: GOSUB 390
3460 BN$ = DD$: GOTO 3390
3470 VT = 8:HT = 10:LL = 30:NR = 0:AN = 1: GOSUB 390
3480 A1$ = DD$: GOTO 3390
3490 VT = 10:HT = 10:LL = 30:NR = 0:AN = 1: GOSUB 390
3500 A2$ = DD$: GOTO 3390
3510 VT = 12:HT = 10:LL = 13:NR = 0:AN = 3: GOSUB 390
3520 CT$ = DD$: GOTO 3390
3530 VT = 13:HT = 10:LL = 2:NR = 1:AN = 3: GOSUB 390
3540 ST$ = DD$: GOTO 3390
3550 VT = 13:HT = 23:LL = 5:NR = 1:AN = 2: GOSUB 390
3560 ZP$ = DD$: GOTO 3390
3570 VT = 15:HT = 10:LL = 3:SK = 1:NR = 1:AN = 2: GOSUB 390
3580 S1$ = DD$
3590 VT = 15:HT = 14:LL = 2:SK = 1:NR = 1:AN = 2: GOSUB 390
3600 S2$ = DD$
3610 VT = 15:HT = 17:LL = 4:SK = 0:NR = 1:AN = 2: GOSUB 390
3620 SS$ = S1$ + " " + S2$ + " " + DD$: GOTO 3390
3630  HOME : GOTO 3100
3640  REM  INST DATA EXCHANGE
3650 IJ$(1,J,JI) = JN$:IJ$(2,J,JI) = B$:IJ$(3,J,JI) = AN$:IJ$(4,J,JI) = BN$:IJ$(5,J,
     JI) = A1$:IJ$(6,J,JI) = A2$:IJ$(7,J,JI) = CT$:IJ$(8,J,JI) = ST$:IJ$(9,J,JI) = Z
     P$:IJ$(10,J,JI) = SS$
3660 F3 = 1
3670  IF J = JJ AND M1 = 2 THEN  GOTO 1700
3680  IF J = JJ THEN 3710
3690  GOTO 2630
3700  POKE 34,0
3710  RETURN
```

```
3720  REM  SCREEN
3730 F9 = 1
3740  GOSUB 2540
3750  IF M1 = 3 AND M2 = 2 THEN SN$ = "MASTER"
3760  FOR J = 1 TO JJ
3770  HOME
3780  VTAB 20: HTAB 5: PRINT "DATA FROM "JN$: VTAB 21: HTAB 5: PRINT "NAME "SN$
3790  VTAB 20: HTAB 25: PRINT "RECORD # "J
3800  VTAB 3: HTAB 5: PRINT S$(18): VTAB 4: HTAB 5: PRINT S$(19): VTAB 5: HTAB 5: PRINT
     S$(20): VTAB 7: HTAB 5: PRINT S$(21): VTAB 9: HTAB 5: PRINT S$(25): VTAB 11: HTAB
     5: PRINT S$(33):
3810  VTAB 13: HTAB 5: PRINT S$(26); TAB( 20)S$(27): VTAB 14: HTAB 5: PRINT S$(28)
3820  VTAB 17: HTAB 20 -  LEN (S$(22)) / 2: PRINT S$(22)
3830  INVERSE
3840  VTAB 3: HTAB 25: PRINT IJ$(2,J,AA): VTAB 4: HTAB 25: PRINT IJ$(3,J,AA): VTAB 6
     : HTAB 10: PRINT IJ$(4,J,AA): VTAB 8: HTAB 10: PRINT IJ$(5,J,AA): VTAB 10: HTAB
     10: PRINT IJ$(6,J,AA)
3850  VTAB 12: HTAB 10: PRINT IJ$(7,J,AA): VTAB 13: HTAB 12: PRINT IJ$(8,J,AA): VTAB
     13: HTAB 25: PRINT IJ$(9,J,AA): VTAB 15: HTAB 10: PRINT IJ$(10,J,AA)
3860  NORMAL
3870  GOSUB 260: NEXT
3880  RETURN
3890  REM  LOG ON SCREEN
3900  POKE 33,40: POKE 34,0:NA$ = "":CD$ = ""
3910  HOME : VTAB 1: PRINT  TAB( 20 - ( LEN (S$(3)) / 2));S$(1): VTAB 3: HTAB 5: PRINT
     S$(2): VTAB 6: HTAB 5: PRINT S$(3)
3920  VTAB 6: HTAB 19: PRINT CH$;CH$; CHR$ (47);CH$;CH$; CHR$ (47);CH$;CH$
3925  VTAB 10: HTAB 20 -  LEN (S$(22)) / 2: PRINT S$(22): VTAB 12: HTAB 20 -  LEN (S
     $(23)) / 2: PRINT S$(23): VTAB 13: HTAB 5: PRINT S$(24)
3930  FOR A = 1 TO 30: VTAB 4: HTAB 9 + A: PRINT CH$: NEXT
3940  FOR A = 1 TO 30
3950  VTAB 4: HTAB 9 + A: GET NA$(A)
3960  IF  ASC (NA$(A)) = 29 THEN M1 = 3
3970  IF  ASC (NA$(A)) = 29 THEN AS$ = "4": GOTO 4560
3980  IF  ASC (NA$(A)) < 65 AND A = 1 THEN 3930
3990  IF  ASC (NA$(A)) = 93 OR  ASC (NA$(A)) = 94 THEN 40020
4000  IF  ASC (NA$(A)) = 8 THEN A = A - 1: VTAB 4: HTAB 9 + A: PRINT CH$: GOTO 3950
4010   F  ASC (NA$(A)) = 44 THEN 3930
4020  IF A > 1 AND  ASC (NA$(A)) = 13 THEN 4060
4030  IF A = 1 AND  ASC (NA$(A)) = 13 THEN 3930
4040  VTAB 4: HTAB 9 + A: PRINT NA$(A)
4050  NEXT
4060  FOR B = 1 TO A - 1:NA$ = NA$ + NA$(B): NEXT
4070  VTAB 4: HTAB 9 + A: CALL  - 868
4080  VTAB 6: HTAB 19: PRINT CH$;CH$; CHR$ (47);CH$;CH$; CHR$ (47);CH$;CH$
4090  VTAB 6: HTAB 19: GET CD$(1)
4100  IF  ASC (CD$(1)) <  = 47 OR  ASC (CD$(1)) =  > 58 THEN 4080
4110  VTAB 6: HTAB 19: PRINT CD$(1)
4120  VTAB 6: HTAB 20: GET CD$(2)
4130  IF  ASC (CD$(2)) <  = 47 OR  ASC (CD$(2)) =  > 58 THEN 4080
4140  VTAB 6: HTAB 20: PRINT CD$(2)
4150  VTAB 6: HTAB 22: GET CD$(3)
4160  IF  ASC (CD$(3)) <  = 47 OR  ASC (CD$(3)) =  > 58 THEN 4080
4170  VTAB 6: HTAB 22: PRINT CD$(3)
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4180  VTAB 6: HTAB 23: GET CD$(4)
4190  IF  ASC (CD$(4)) <  = 47 OR  ASC (CD$(4)) =  > 58 THEN 4080
4200  VTAB 6: HTAB 23: PRINT CD$(4)
4210  VTAB 6: HTAB 25: GET CD$(5)
4220  IF  ASC (CD$(5)) <  = 47 OR  ASC (CD$(5)) =  > 58 THEN 4080
4230  VTAB 6: HTAB 25: PRINT CD$(5)
4240  VTAB 6: HTAB 26: GET CD$(6)
4250  IF  ASC (CD$(6)) <  = 47 OR  ASC (CD$(6)) =  > 58 THEN 4080
4260  VTAB 6: HTAB 26: PRINT CD$(6)
4270 CD$ = CD$(1) + CD$(2) +  CHR$ (47) + CD$(3) + CD$(4) +  CHR$ (47) + CD$(5) + CD
     $(6)
4280  VTAB 15: HTAB 20 -  LEN (S$(22)) / 2: PRINT S$(22): VTAB 17: HTAB 20 -  LEN (S
     $(10)) / 2: PRINT S$(10): VTAB 18: HTAB 5: PRINT S$(11): VTAB 20: HTAB 5: PRINT
     "1. DATA CORRECT": VTAB 21: HTAB 5: PRINT "2. DATA INCORRECT":VT = 18:HT = 30:L
     L = 1:NR = 1:AN = 2:SK = 0: GOSUB 390
4290  IF DD$ = "1" THEN AS$ = "Y"
4300  IF DD$ = "2" THEN AS$ = "N"
4310  IF AS$ = "Y" OR AS$ = "N" THEN 4340
4320  GOTO 4280
4330  IF AS$ = "Y" THEN 4350
4340  IF AS$ = "N" THEN 3890
4350  REM  MENU SCREEN
4360 F1 = 1
4370  POKE 34,0: POKE 33,40: TEXT : HOME
4380  VTAB 1: PRINT  TAB( 20 - ( LEN (S$(5)) / 2));S$(5): VTAB 3: HTAB 5: PRINT S$(6
     ): VTAB 5: HTAB 5: PRINT S$(7): VTAB 7: HTAB 5: PRINT S$(9): VTAB 11: HTAB 20 -
      LEN (S$(22)) / 2: PRINT S$(22)
4390  VTAB 13: HTAB 5: PRINT S$(10): VTAB 14: HTAB 10: PRINT S$(11)
4400 AS$ = ""
4410  VTAB 14: HTAB 33: PRINT  CHR$ (91); CHR$ (32); CHR$ (93)
4420  VTAB 14: HTAB 34: GET AS$
4430  IF  ASC (AS$) = 29 AND F1 = 1 THEN 4370
4440  IF  ASC (AS$) = 29 THEN AS$ = "4":M1 = 3: GOTO 4560
4450  VTAB 14: HTAB 34: PRINT AS$
4460  VTAB 14: HTAB 34: GET SA$
4470  IF  ASC (SA$) <  > 13 THEN 4410
4480  IF  VAL (AS$) = 1 OR  VAL (AS$) = 2 OR  VAL (AS$) = 3 THEN 4500
4490  IF  ASC (AS$) > 0 THEN 4410
4500 M1 =  VAL (AS$)
4510  IF M1 = 2 AND M2 = 5 THEN 4370
4520  IF R1 = 1 AND M1 = 2 OR R1 = 1 AND M1 = 1 THEN 4370
4530  IF M1 = 2 AND M2 > 0 THEN 4370
4540  IF M2 > 0 AND M1 = 1 THEN 4370
4550  IF M1 = 2 THEN  GOSUB 770
4560  ON  VAL (AS$) GOSUB 1870,2540,1520,2310
4570  GOTO 4370
4580  PRINT ""
4590  HOME : FOR X = 1 TO 39: PRINT "*";: NEXT : PRINT "": PRINT : PRINT "  EITHER Y
     OU HAVE ENCOUNTERED AN ERROR    IN THE PROGRAM OR YOU HAVE ACCIDENTLY   PRESSED
      THE RESET KEY (OR CTRL-C)": PRINT : PRINT "**********************************
     ****": PRINT : PRINT
4600  PRINT "DO YOU WANT TO EXIT THE PROGRAM OR      REENTER?": PRINT : INPUT "ENTER
      'E' OR 'R' ===> ";HC$: IF HC$ = "E" THEN  POKE PA,60: POKE PA + 1,212: HOME : VTAB
     10: HTAB 10: PRINT "THANK YOU": END
4610  GOTO 150
```

TASK:

The student will operate an input/output device.

A. The student will mount tape on the tape drive.

CONDITIONS AND LIMITATIONS:

The student, given a tape drive unit and a blank magnetic tape, will (1) mount the tape on the tape drive, (2) load the tape to BT (beginning of the tape), and (3) verify that the unit is in the run mode.

CRITERIA OF ACCEPTABLE PERFORMANCE:

1. The BT or load point light must be on.

2. The run light must be on.

B. The student will mount the disk pack.

CONDITIONS AND LIMITATIONS:

The student, given a disk drive unit and a blank disk pack, will (1) mount the disk pack on the disk drive, (2) depress the run or start button, and (3) verify that the unit is in the ready position.

CRITERIA OF ACCEPTABLE PERFORMANCE:

1. The run or start light must be on.

2. The ready light must be on.

TASK:

The student will operate a console.

CONDITIONS AND LIMITATIONS:

The student, given a system that includes a console with a manufacturer's operator manual, printer, disk drive, tape drive and console printer will:

(1) check the status of the printer and activate the printer,
(2) error off the file printing and continue to the next file,
(3) lock out the printer immediately if inactive or after the file printing finishes,
(4) reprint five pages of the file printing,
(5) display each symbiont group that has files queued,
(6) save all print files queued to tape,
(7) restore all files from tape,
(8) set the maximum number of active batch runs to a specific number determined by the instructor,
(9) display the current time and date,
(10)display all active runs in the system,
(11)display detailed information of all active runs,
(12)display all runs held in the system,
(13)display all runs in the backlog,
(14)display specific information about one active run in the system,
(15)display a detailed system status report,
(16)remove (delete) a selected run from backlog,
(17)start a batch job,
(18)put a hold on all runs in backlog,
(19)release the hold on backlog,
(20)check the facility status of the disk drive to determine whether the drive is up, down or suspended,
(21)up, down and suspend the disk drive,
(22)check the facility of the tape drive to determine whether the drive is up, down or reserved,
(23)up, down and reserve the tape drive, and
(24)activate the console printer.

The printer, disk drive and tape drive will be machine loaded and ready for use as specified in Competencies 3 and 5.

CRITERIA OF ACCEPTABLE PERFORMANCE:

1. The console must indicate the printer is operating.

2. Commands 2 through 18 must be keyed in and responses provided, if necessary.

3. The status check of the disk drive must be performed as directed in the machine manufacturer's operator manual.

4. The console must be used to place the disk drive in up, down and suspended modes as directed in the machine manufacturer's operator manual.

5. The status check of the tape drive must be performed as directed in the machine manufacturer's operator manual.

6. The console must be used to place the tape drive in up, down and reserve modes as directed in the machine manufacturer's operator manual.

7. The console must indicate the console printer is operating, if applicable.

TASK:

The student will operate a printer (chain, drum, band, jet spray).

CONDITIONS AND LIMITATIONS:

The student, given a printer, stock paper, a teacher selected program such as inventory or a compilation report, a ribbon, a carriage control tape or loading forms control buffer, a carriage control tape punch, a brush and cleaning fluid or paper specifically designed for cleaning, and a vacuum, will (1) power the printer, (2) remove and insert the paper, (3) align the tractors both horizontally and vertically, (4) space the paper forward to start the stacking of the printed material, (5) change the ribbon, (6) reproduce the carriage control tape (if appropriate), (7) print the output, (8) clean the print mechanism and (9) vacuum the printer after using it.

CRITERIA OF ACCEPTABLE PERFORMANCE:

1. The printer must operate.
2. The paper must be aligned vertically so the pins in the tractor feed are in the center of the paper holes, for proper tension. The top margin must be 1 inch. The paper must be inserted and removed according to the machine manufacturer's operator manual.
3. The horizontal tractors must be adjusted to place the print position number one 1/4 inch to 1/2 inch from the perforation on the left side of the paper.
4. The printed material must be stacked in its original form.
5. The ribbon must be changed as directed in the machine manufacturer's operator manual.
6. The duplicate carriage control tape must provide the exact vertical spacing as when using the same program on the original control tape, for units with a carriage control tape.
7. The teacher selected program must be printed as specified by the program.
8. The print mechanism must be cleaned according to the machine manufacturer's operator manual and must be free of all foreign materials.
9. All foreign materials must be removed from the accessible parts of the printer, using a vacuum.

TASK:

The student will operate a console printer.

CONDITIONS AND LIMITATIONS:

The student, given a console printer and continuous feed paper, will (1) power the console printer, (2) insert and remove the paper, (3) align the tractors and paper horizontally and (4) change the ribbon.

CRITERIA OF ACCEPTABLE PERFORMANCE:

1. The console printer must operate.
2. The paper must be inserted and removed according to the machine manufacturer's operator manual.
3. The paper must be aligned horizontally so the pins in the tractor feed are in the center of the paper holes, for proper tension. All materials must print on the paper.
4. The ribbon must be changed as directed in the machine manufacturer's operator manual.

TASK:

The student will write a computer program in BASIC.

CONDITIONS AND LIMITATIONS:

The student, given an array of data consisting of win/loss records of BIG 8 football teams (season and conference) and the formats for display, will write a program that will perform the tasks included in the following problem:

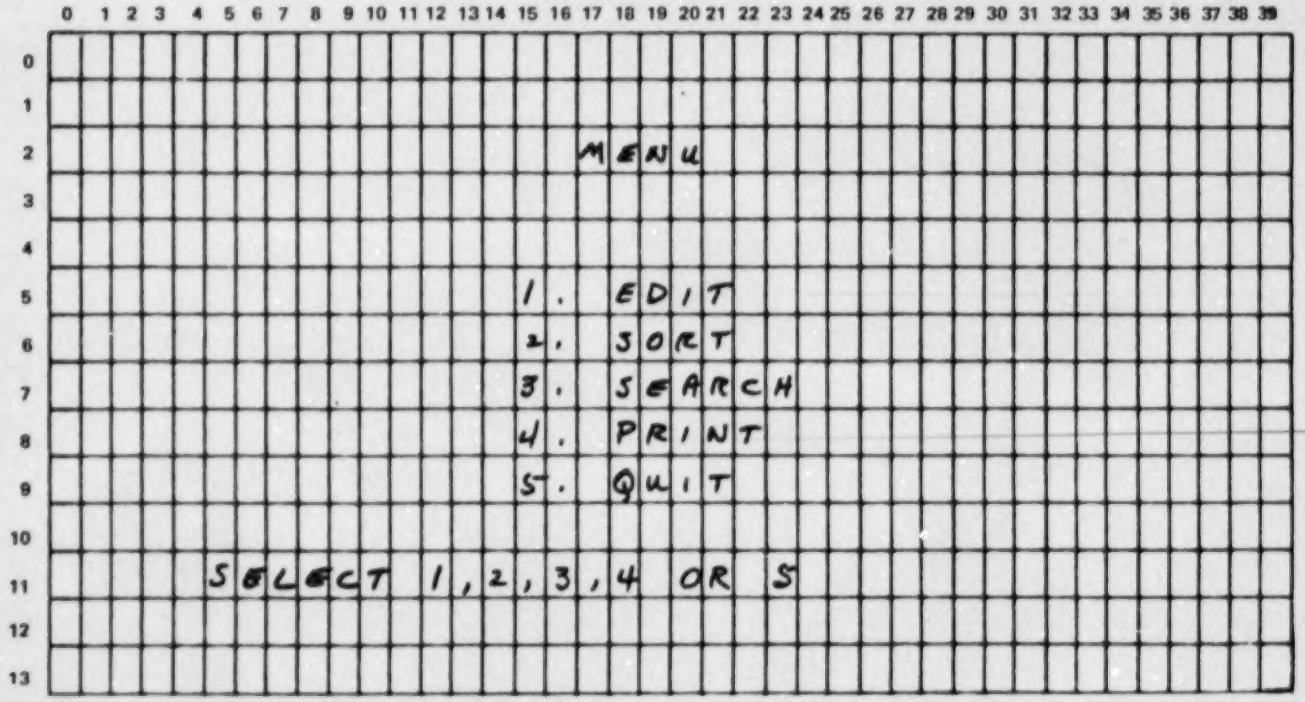
Problem

1. Use the following data statements as an array:

   (Column 1 provides names of BIG 8 teams; columns 2, 3 and 4 represent conference wins, losses and ties respectively, columns 5, 6 and 7 represent season wins, losses and ties respectively.)

KANSAS STATE	1	1	1	3	2	1
COLORADO	0	2	1	1	3	1
OKLAHOMA	3	0	0	3	2	1
IOWA STATE	1	1	1	4	2	1
KANSAS	0	2	1	1	4	2
OKLAHOMA STATE	0	1	2	1	3	2
NEBRASKA	3	0	0	6	1	0
Missouri	0	1	2	3	2	2

2. Produce a menu which (1) includes the options EDIT, SORT, SEARCH, PRINT, and QUIT, and appears on the display in the following format:

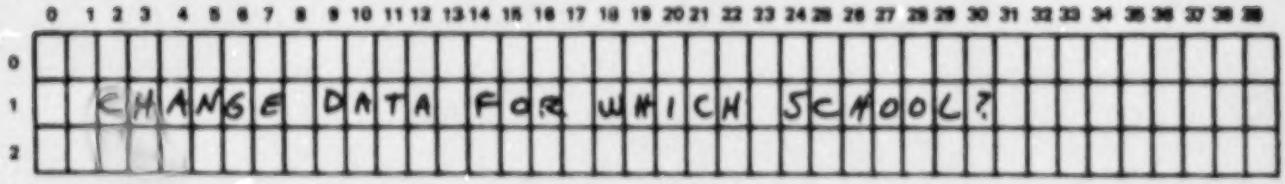


3. Include a routine for each of the following menu options:

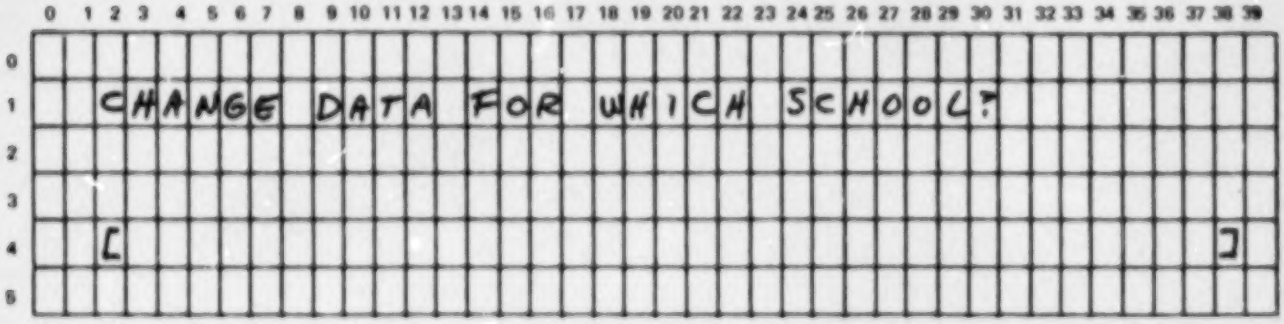
   A. EDIT to allow for the changing of any field in any record.

      1. The EDIT routine must:

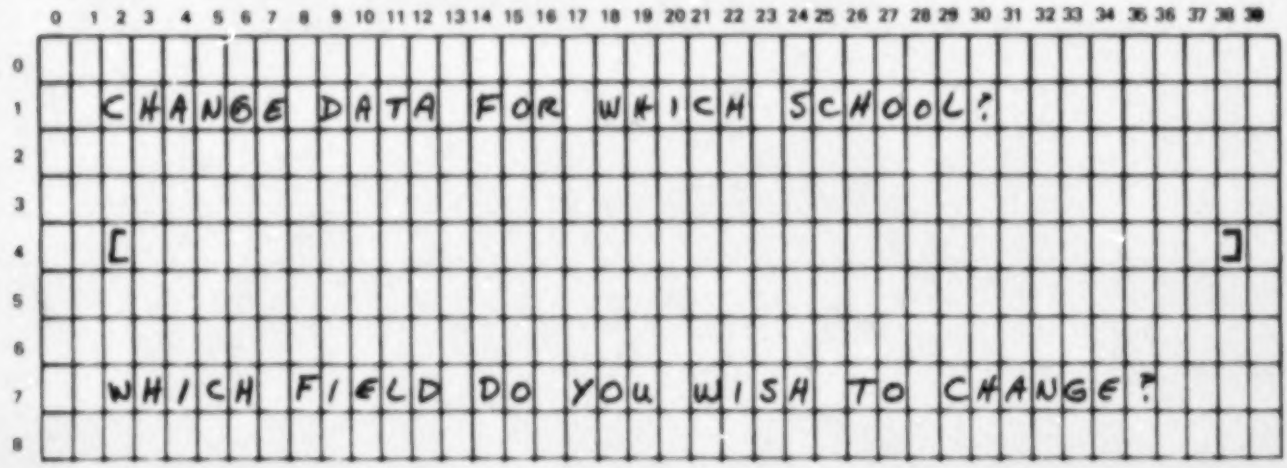
         a. Allow the user to input the school for which changes are desired.



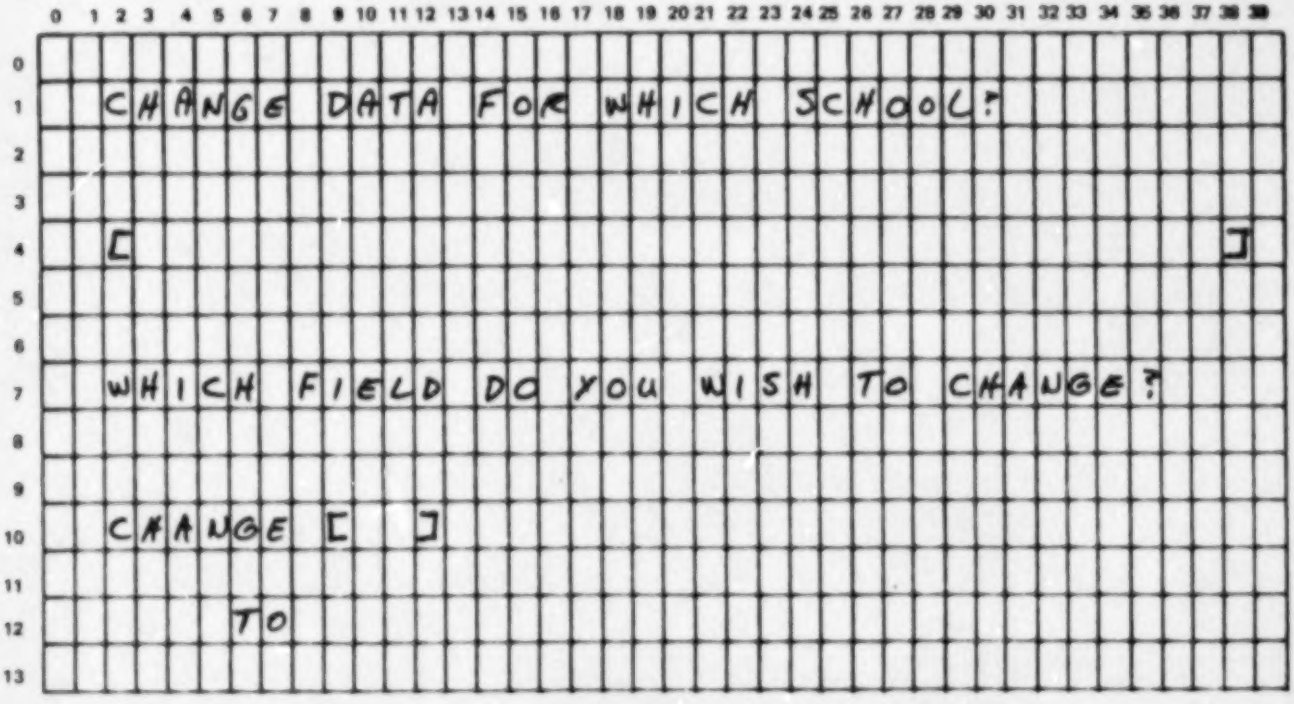
         b. Print the record called for in a.



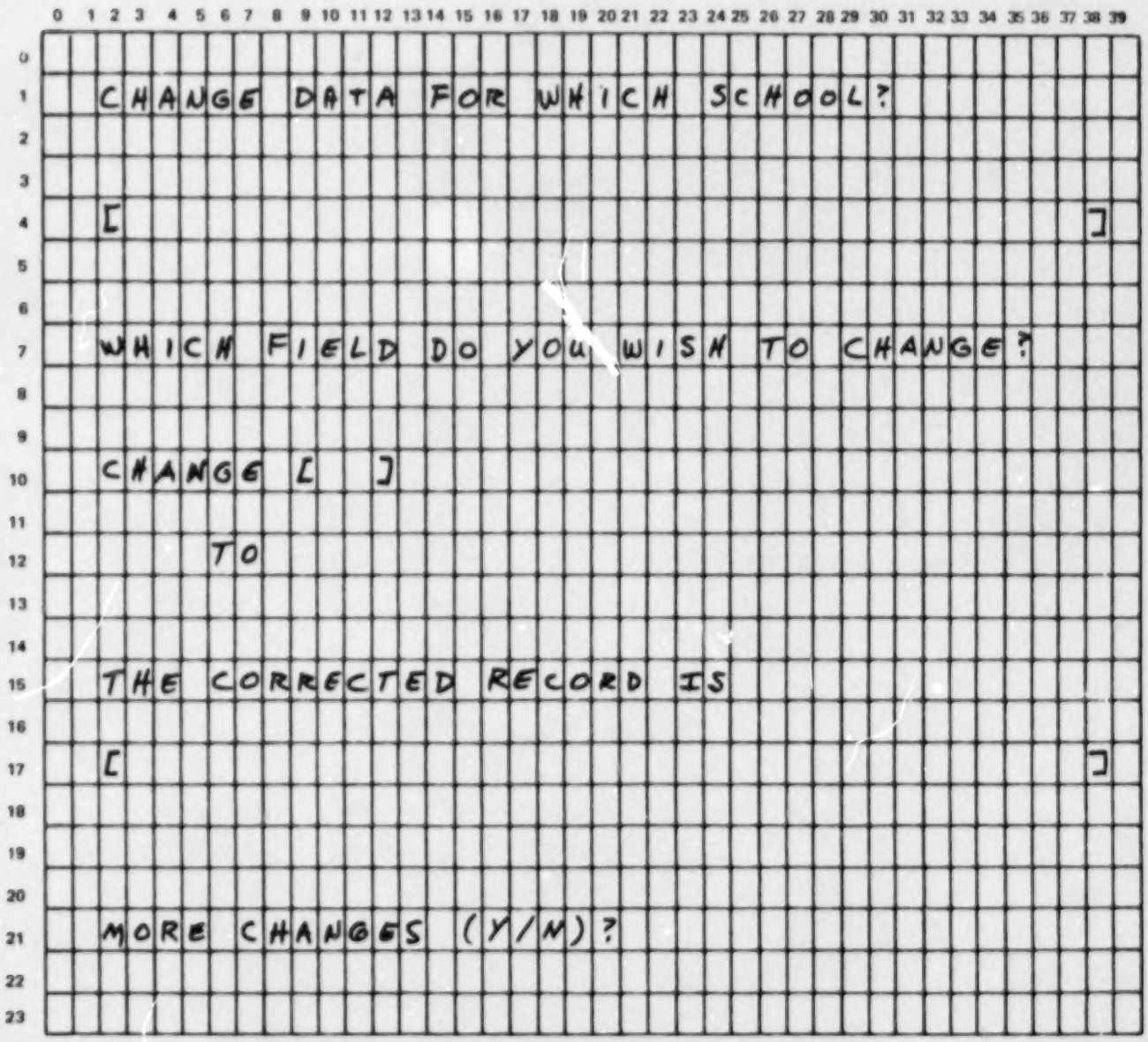
c. Allow the user to input the field # for which the change is to be made.



d. Allow the user to input the change.



c. Print the corrected record and allow the user to make more changes or return to the menu.



B. SORT on field #2 and place all records in descending numerical order.

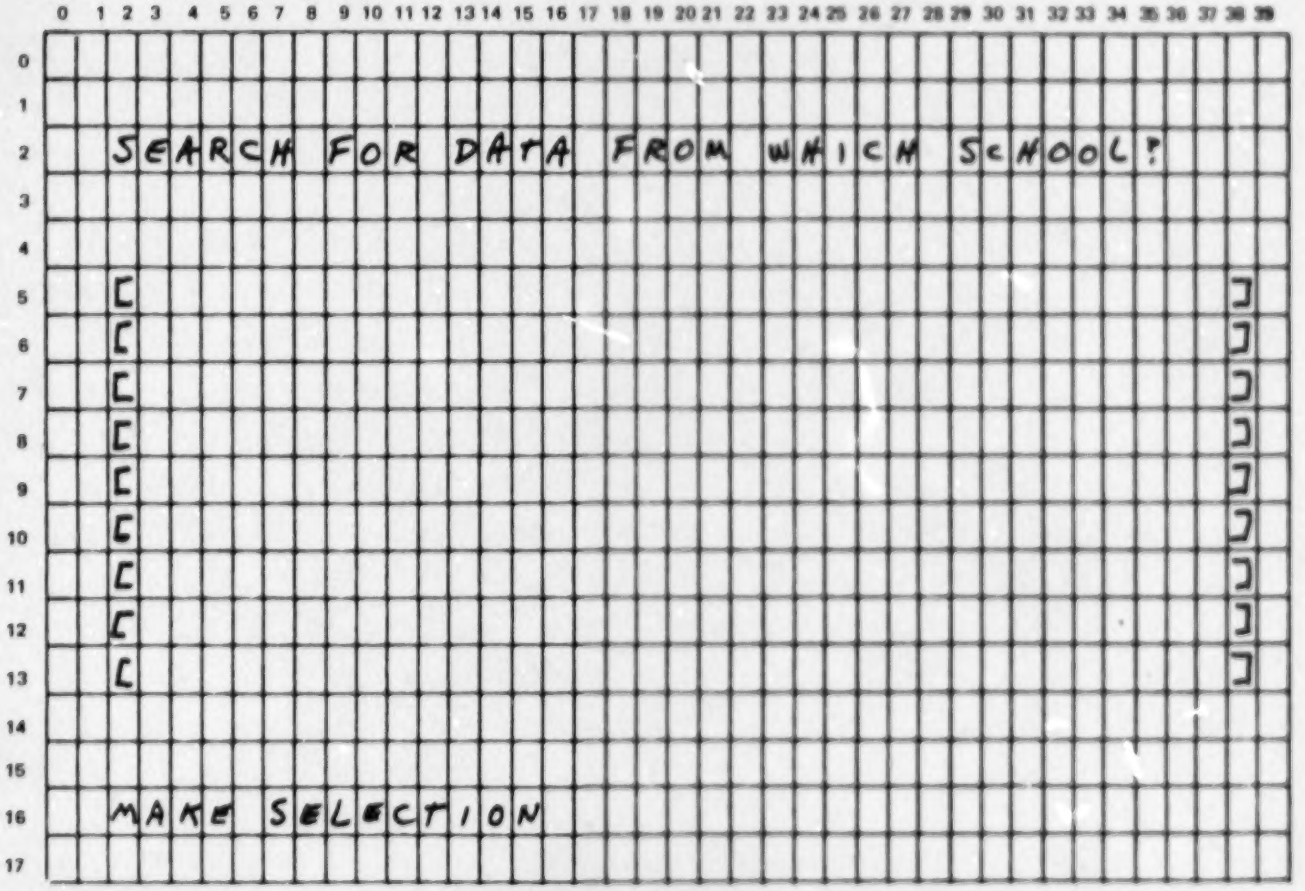
1. The SORT routine must:

   a. Sort the data for field #2.
   b. Place the sorted data in decreasing numerical order.
   c. Place the entire record in proper order.
   d. Direct the control to the PRINT ROUTINE which will print the entire array when the sort is complete.
   e. Return to the menu.

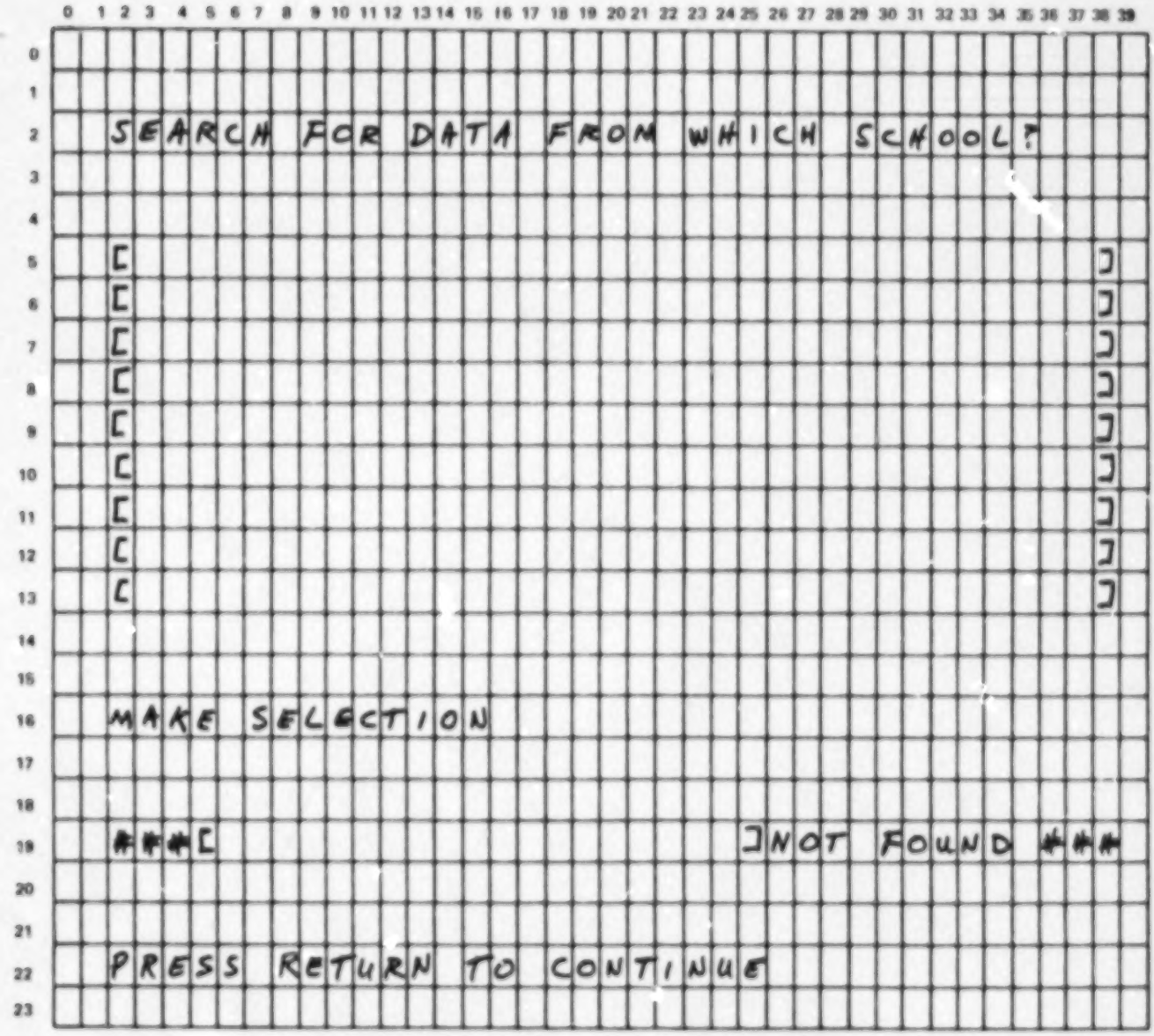
C. SEARCH for any BIG 8 CONFERENCE STANDINGS using the school name (field # 1) as the key field.

1. The SEARCH routine must:

a. Print the name of each school and input the school for which a search is desired.



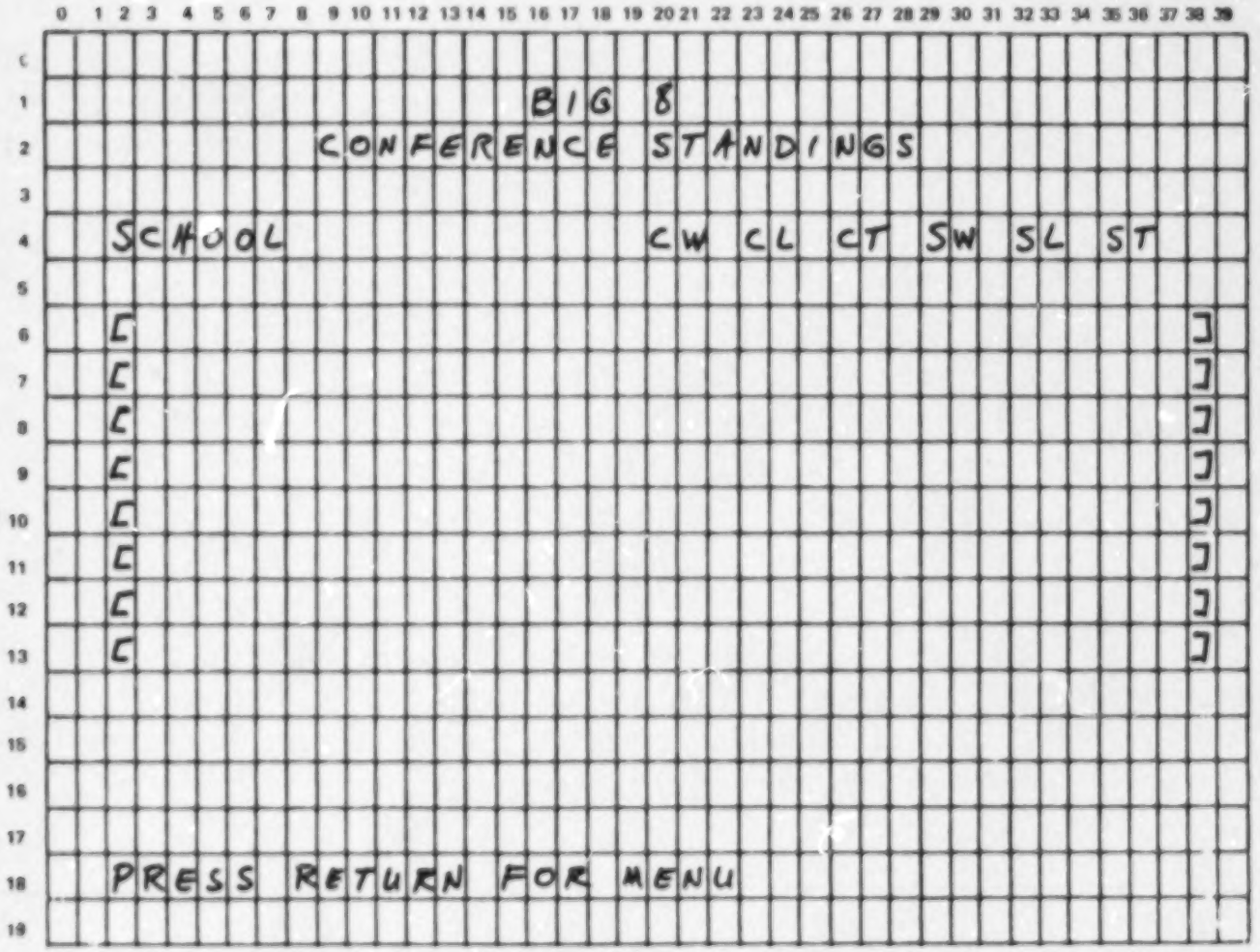
b. Display message for words not contained in the data and return to the beginning of the option.



d. Upon selection of the print option from the menu, the screen will display the following information.

Title — Big 8 Conference Standings
Column Headings — School - CW - CL - CT - SW - SL - ST

The operator must have the option of returning to the menu after viewing the data.



4. The program must include the following features: an ON/GOTO statement, FOR/NEXT loops, and double subscripted variables.

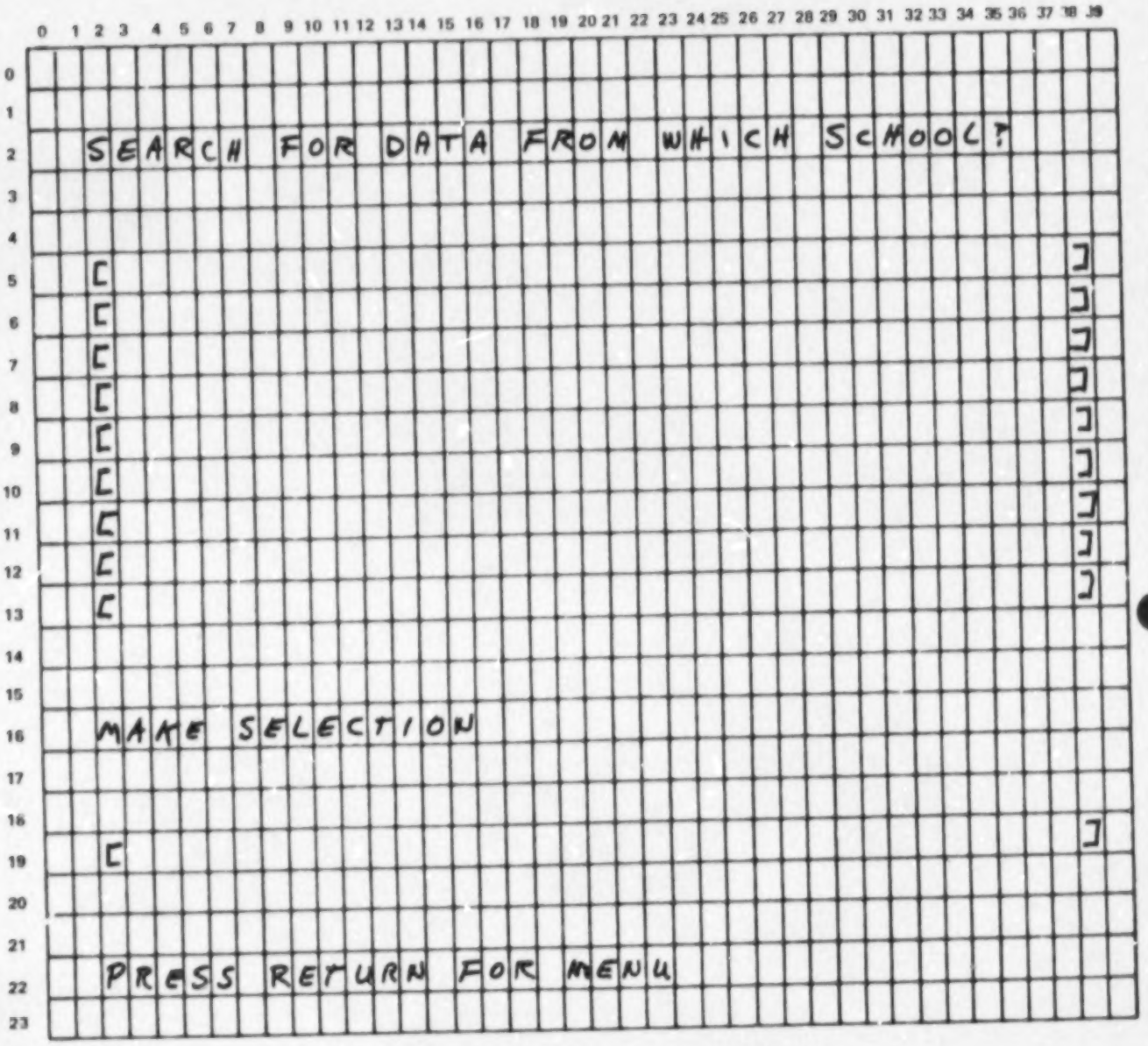
   a. The ON/GOTO statement must be used for making the menu selection.
   b. The FOR/NEXT loops must be used for reading in the data and for the menu option routines.
   c. The double subscripted variable must be used to store the array.

CRITERIA OF ACCEPTABLE PERFORMANCE:

All monitor displays or printouts must appear as illustrated in the problem. The program must edit, sort, search, print and quit and contain the features described in part 4 of the problem.

a. The ON/GOTO statement must be used for making the menu selection.
b. The FOR/NEXT loops must be used for reading in the data and for the menu option routines.
c. The double subscripted variable must be used to store the array.

c. Print the entire record if the item is found.



TASK:

The student will write a computer program in COBOL.

CONDITIONS AND LIMITATIONS:

The student given a sequencial reading device (card reader, tape, disc), printer, COBOL compiler and set of test data, will write a COBOL program that will perform the tasks included in the following problem.

STOCK PURCHASE REPORT

This problem is designed to prepare an investment loan report, listing all loans made for individual customers, by the various loan officers in the Smith and Jones Investment Company. The following processing criteria must be used in this program.

1. The input to this program consists of a set of data records on cards, in the format shown on the card layout form provided.
2. There will be one or more transaction cards for each customer, and one or more customers for each loan officer in the firm. All transaction records have been grouped together by the customer number within the loan officer number.
3. The output from this program will be in the form of a printer listing, in the format shown on the line spacing chart provided.
4. The report is to be group indicated by the loan officer and the customer number, meaning that the loan officer name and customer number are to be printed only on the first occurrence of each on the detail lines for the group.
5. The loan officer name is to be extracted from a table based on the corresponding loan officer number to be referenced off of each transaction card. The table should be set up in the following manner:

LOAN OFFICER NUMBER	LOAN OFFICER NAME
10	Dale Renner
25	Terry Busteed
30	Brad Heinman
40	Wayne Warnky
45	Roy Smith
50	Dan Daniel
55	Mike Jones

6. Allow for the possibility that one of the loan officer numbers may not be found in the table; print out the following message in place of the loan officer name: "OFFICER XX IS INVALID." NOTE: XX is to contain the actual loan officer number from the card not found to match.
7. To determine the interest rate to be used for each loan record processed requires the use of another table. The loan amount is used to reference the interest rate from the table in the following levels:

LOAN AMOUNT RANGE	INTEREST RATE
0.00 - 2,500.00	.0566
2,500.01 - 5,000.00	.0476
5,000.01 - 10,000.00	.0431
10,000.01 - 999,999.99	.0400

8. Use 88 level conditions to describe the input categories of loan amount as follows:

CLASS A LOAN	0.00 - 2,500.00
CLASS B LOAN	2,500.01 - 5,000.00
CLASS C LOAN	5,000.01 - 10,000.00
CLASS D LOAN	10,000.01 - 999,999.99

9. To calculate the total interest due on the loan, the following criteria has to be used:
   a) a flat fee or constant amount of interest is charged in addition to the interest percentage calculated for some loans.
      CLASS A loans do not charge any flat fee interest amounts
      CLASS B loans charge a flat fee interest of 22.50
      CLASS C and D loans charge a flat fee of interest of 45.00
   b) the total interest due should be calculated by taking the loan amount times its respective interest rate and then adding any flat fee interest charges that apply.
10. To calculate the loan balance due, subtract the total interest due from loan amount.
11. Customer totals are to be calculated and printed for each new customer.
12. Loan officer totals are to be calculated and printed for each new officer.
13. Final totals are to be calculated for all records processed and then printed at the end of the report.
14. Allow for 40 lines of print per page, starting with the heading at the top of a new page for the first page and overflow.
15. The date on the heading line should reflect the current date.
16. The following COBOL programming techniques must be used whenever possible to make this program more efficient and easily modifiable:

    1. Code using top-down structured COBOL.

    2. Avoid using GO TO statements.

    3. Use 88 level conditions on the input record and on any control switches.

    4. Use COMP-3 to pack any of the numeric work fields or accumulators.

    5. Set up a program constants area within the Working-Storage section to initially state all constant processing values.

    6. Use a COBOL sequential SEARCH to extract the interest rate value from its respective table.

    7. Use a COBOL binary SEARCH ALL to extract the loan officer name from its respective table.

    8. Use nested IF statements where applicable.

TEST DATA

Columns 1 and 2 — Loan Officer Number
Columns 5 thru 9 — Customer Number
Columns 11 thru 16 — Note Number
Columns 20 thru 25 — Note Date
Columns 26 thru 33 — Loan Amount
* Columns 34 thru 39 — Interest Due Date
* Columns 40 thru 45 — Loan Maturity Date

1	5	11	20	26	34	40
10	11223	011113	012282	00050000	012283	012287
10	11223	137652	031782	00350000	031783	131787
10	98555	113510	113510	09000000	121183	121197
25	00128	573535	061282	00500000	061283	061287
25	11110	777321	092682	95000000	092683	092602
30	33500	001115	021182	07500000	021183	021192
35	73215	983113	111682	00030000	111683	111687
40	00117	038111	072682	01000000	072683	072687
40	02143	573751	050182	00750000	050183	050192
40	02143	588833	050182	00250000	050183	050187
40	02143	757321	061582	01010000	061583	061592
40	53411	015777	083082	75000000	083083	083002
45	01133	637773	022882	08000000	011883	022897
45	03521	725011	013182	01050000	013183	013187
50	09211	011133	081582	02540000	081583	081592
50	23756	445001	063082	00130000	063083	063087
50	23756	873222	070582	00025000	070583	070587
55	22222	777733	111582	50000000	111583	111502
55	78113	827262	122482	07550000	122483	122497
55	98999	113313	123182	00725000	123183	123192

* NOTE: The interest due date and the loan maturity date data fields should be periodically updated to reflect a more realistic report.

DATA PROCESSING DIVISION

MULTIPLE CARD LAYOUT FORM

AGENCY Smith & Jones SYSTEM Investment Loan Cards ANALYST _____ DATE _____ PAGE ___ OF ___

LOAN OFFICER NUMBER		CUSTOMER NUMBER		NOTE NUMBER		NOTE DATE	LOAN AMOUNT	INTEREST DUE DATE	LOAN MATURITY DATE	
1 2	3 4	5 6 7 8 9	10	11 12 13 14 15 16	17 18	19 20 21 22 23 24 25	26 27 28 29 30 31 32 33	34 35 36 37 38 39	40 41 42 43 44 45	46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80										
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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80										
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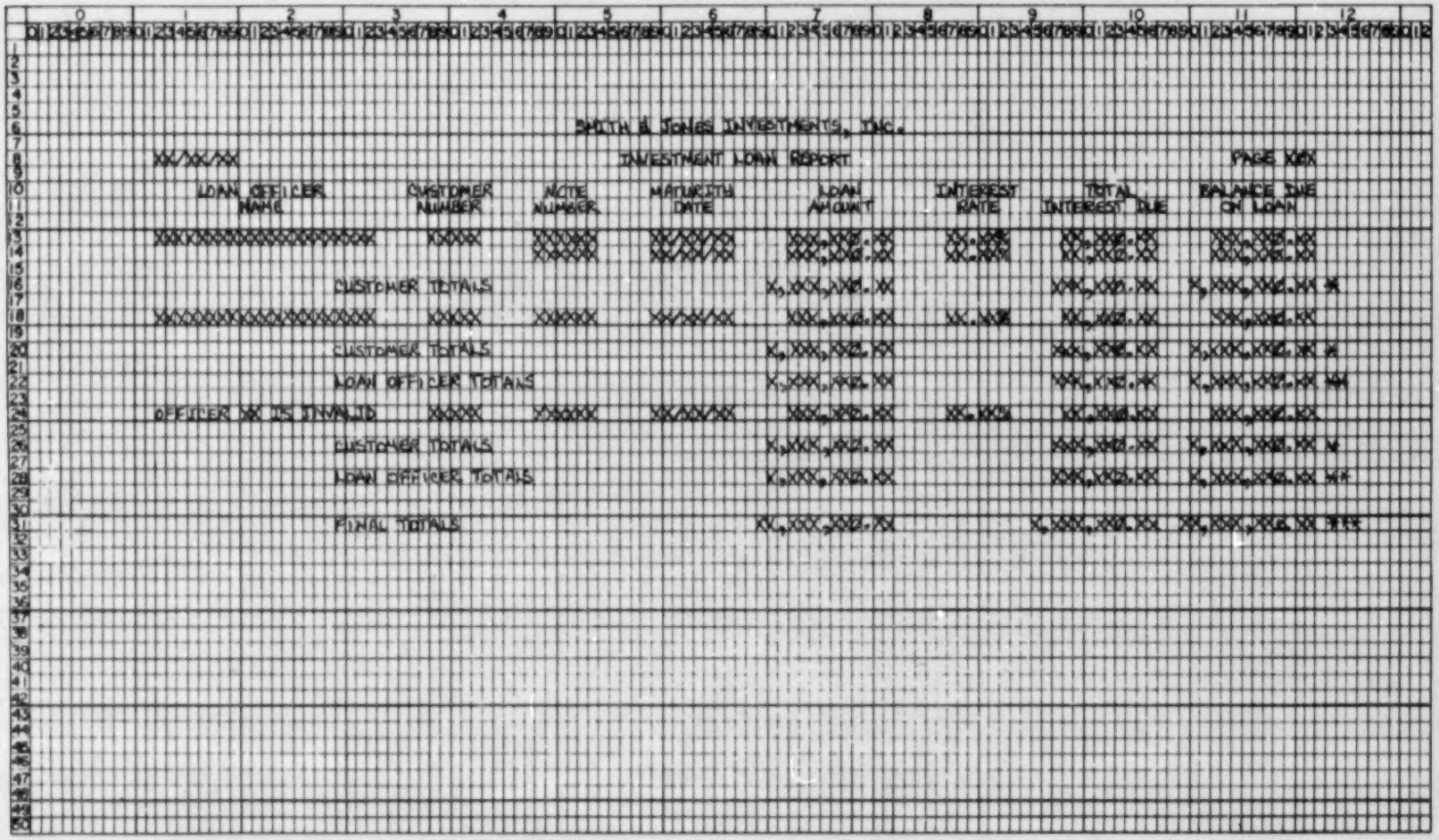
94

COMPETENCY NO. 8
(Continued)

112

113

LINE SPACING CHART



COMPETENCY NO. 8
(Continued)

Teacher Key
Computer Literacy

COMPUTER LITERACY
COMPETENCY NO. 1-A
Teacher Key

1. Three basic components identified must be:

   input
   processing
   output

2. Definitions for components must include key words described:

input	enter	data
	put in	information
	key	numbers
	type	letters
processing	sequence of operations (branch, compare, manipulate, logic control, arithmetic, storage, moving)	
	producing results	
	performing operations on data	
	follow instructions	
	execute the program	
output	results of processing	
	internal to external	
	transferring of data	
	answers	
	reports	
	hard copy	

COMPUTER LITERACY
COMPETENCY NO. 1-B
Teacher Key

Definition Key Words:

Hardware - physical equipment machines

Software - programs and/or insructions

Hardware and Software Items:

H	1. Printer	H	11. Card Reader
H	2. Disk drive	S	12. Documentation
S	3. Application programs	H	13. Magnetic tape drive
H	4. Magnetic tape	S	14. Translator
S	5. Compilers	S	15. Job control
S	6. Assembler	H	16. Console
H	7. Terminal	S	17. Utility programs
S	8. Operating systems	S	18. Data base
H	9. Central processing unit	H	19. Plotter
H	10. Disk	H	20 CRT

(D) 1. Program
(E) 2. Arithmetic/Logic Unit
(B) 3. Control Unit
(A) 4. Memory (main storage)
(G) 5. Operating system

Definitions:

A. A device into which data can be entered, held, and retrieved at a later time.

B. Part of the CPU that directs and coordinates the entire computer system.

C. The accumulation and processing of data as a group.

D. Instructions, directions, sequence of tasks to produce a desired output.

E. Controls all computational operations, decision making.

F. A set of related records.

G. Collection of programs that allows the computer to supervise its own operation.

A. Punch Card
B. Magnetic Tape
C. Disk
D. Paper Tape

Characteristics

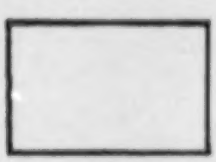
Turn-around document	(A, D)
Punched hole	(A, D)
Used by Hollerith	(A)
Random access	(C)
High speed input/output	(B, C)
Low density storage	(A, D)
High density storage	(B, C)
Don't fold, bend or mutilate	(A)
Slow speed input/output	(A, D)
Channels	(B, D)
Reel	(B, D)
"Floppy"	(C)
Columns	(A)
Sectors	(C)
Magnetized spots	(B, C)
Cannot be modified, once keyed	(A, D)

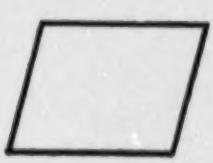
	Description	Level
COBOL	8	H
FORTRAN	3	H
RPG	5	H
BASIC	6	H
MACHINE	4	L
ASSEMBLER	2	L
PASCAL	9	H
LOGO	10	H

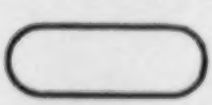
1. A language that serves as a link between the operating system and the application program.
2. A language using symbols and abbreviations to represent the function to be performed.
3. An original language designed for scientists, mathematicians, and engineers.
4. A series of numbers, letters, and other bit configurations which are interpreted by the electronic circuitry of a computer.
5. A language designed to provide an easy method of generating routine business reports.
6. A widely used language for personal computers and small business systems.
7. A language that interprets sources and statements and immediately causes statements to be executed one at a time.
8. The most widely used business programming language for large computers.
9. A language that encourages good programming style and structured language.
10. A language designed to provide an easy method of generating graphic displays.

COMPETENCY NO. 2-B

Decision

Process 

Input/Output 

Start/Stop 

Connector

Follow the lines downward unless it is a decision symbol; take the YES exit or the NO exit at decision symbols.

The steps to follow the flowchart are given in order below (left column). The right column contains explanations of why one should choose this route.

SEQUENCE OF SYMBOLS	*EXPLANATION*
START	
F - 10	
IS 18 < 2 x F?	Exit yes since 18 is less than 2 x 10 or 20
G = 20	
IS G ÷ F ≠ 4 ÷ 2?	Exit no, 2 = 2, so false statement (Proceed to connector 2)
*PRINT "THIS"	
*PRINT "PROGRAM"	
F = F - 7	Now F has the value of 3 (10 - 7 = 3)
IS F ÷ 2 ≤ 1.5?	Exit yes since 3 ÷ 2 = 1.5 (Proceed to connector)
IS 18 < 2 x F?	Exit no since 18 is greater than 2 x 3 or 6
*PRINT "WAS"	
*PRINT "RUN"	
IS G + F < 25?	Exit yes since 23 is less than 25
IS G - F ≤ F + F?	Exit no since "17 is less than or equal to 6" is a false statement.
*PRINT "CORRECTLY"	
STOP	

*Print statements down the first column spell out the statement THIS PROGRAM WAS RUN CORRECTLY.

1. K = 1

   S = 5

   X = 6

2. d

3. c

The following program is an example.

```
10    READ    A
20    LET     T=T+A
30    IF      A=5 THEN 50
40    GOTO    10
50    PRINT   T
¢60   DATA    1,2,3,4,5
70    END
```

The output of the program must be 15.

1. b
2. c
3. a
4. a, c, e
5. a, b, c, d
6. a, b, c, d
7. a, b, d, e
8. d
9. a, b, c, d, f
10. a, b
11. a, d, e

1. C Computation
2. D Decision Making
3. A Simulation
4. B Information Storage and Retrieval

1. D
2. A
3. C
4. B

COMPUTER LITERACY
COMPETENCY NO. 4-A
Teacher Key

(1) data entry

(2) computer-machine operation

(3) programming

(4) system analysis

(5) management

COMPUTER LITERACY
COMPETENCY NO. 4-B
Teacher Key

1. 2
2. 4
3. 5
4. 1
5. 5
6. 3
7. 2
8. 4
9. 1
10. 3
11. 2
12. 5

COMPUTER LITERACY
COMPETENCY NO. 4-C
Teacher Key

1. 3
2. 1
3. 4
4. 2
5. 5

COMPUTER LITERACY
COMPETENCY NO. 5-A
Teacher Key

Positive:	Negative:
a	b
c	f
d	h
e	i
g	k
j	m
l	n

COMPUTER LITERACY
COMPETENCY NO. 5-B
Teacher Key

1.
2. ✓
3. ✓
4.
5.
6. ✓
7. ✓
8. ✓
9.
10. ✓
11.
12. ✓

Group 1

3 intergrated circuit
2 transister
1 vacuum tube
5 bubble memory
4 chip

Group 2

2 IBM 1401
1 ENIAC
5 personal computer
3 IBM 360
4 microprocessor

Group 3

4 data base
1 wired control panel
2 software introduced
3 multi programming

Group 4

4 machine language
6 CRT
1 Abacus
3 Hollerith
2 slide rule
5 FORTRAN

1. alphanumeric
2. data
3. auxiliary storage
4. access time
5. field
6. bug
   debug
7. on-line processing
   batch processing
8. bit
   byte
9. record
10. file
11. CRT (Cathode ray tube)
12. compiler
    source program
    object program
13. memory
    K
14. data base
15. sequential access
16. random access memory (RAM)
    read only memory (ROM)
17. word processing
18. modem
19. chip
20. peripherals
21. computer

Teacher Key

Data Processing Occupations

Payroll

Columns	Field
1-5	(skip)
6-30	Alphabetic
31	(skip)
32	Alphabetic
33-35	(skip)
36-44	Numeric
45	(skip)
46-50	Numeric
51-55	(skip)
56-59	Numeric
60-64	(skip)
65-67	Numeric
68	(skip)
69-71	Numeric
72	(skip)
73-75	Numeric
76-79	(skip)
80	Numeric

Accounts Payable

Columns	Field
1	(skip)
2-7	Numeric
8-13	(skip)
14-18	Numeric
19-23	(skip)
24-29	Numeric
30-49	(skip)
50-54	Numeric
55	(skip)
56-60	Numeric
61	(skip)
62-63	Numeric (could be Dup)
64-66	(skip)
67-74	Numeric/left zero fill
75-80	Numeric Dup

TEACHER MANUAL

1. Double subscripted variables in the student's program must appear as on lines 20 and 50.
2. Nested FOR/NEXT Loops must appear as on lines 30, 40, 60 and 70.
3. The ON/GOTO statement must appear as on Line 200.
4. The following program is an example. The students program may be different.

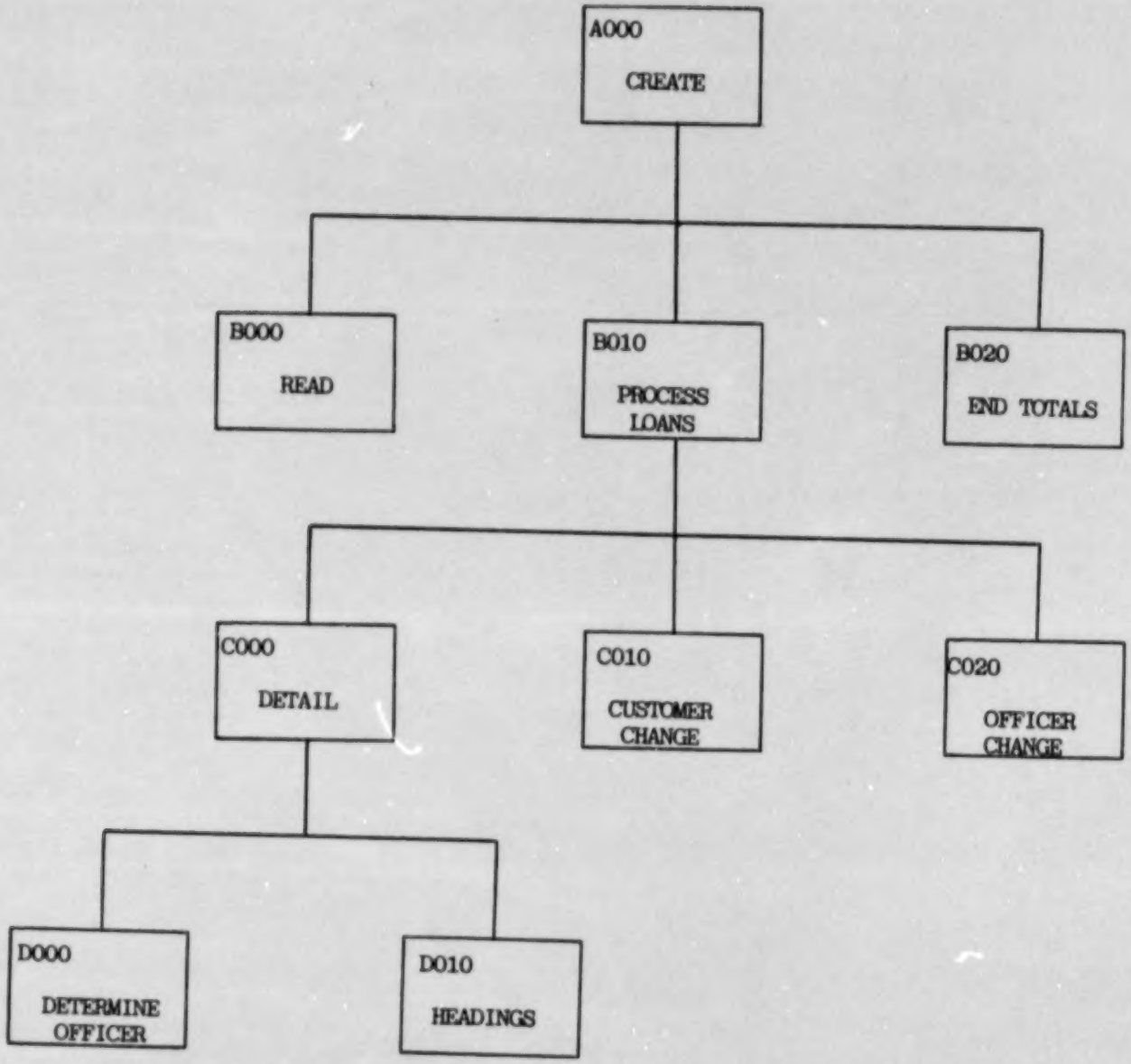
```
LIST

10  REM  *** READ DATA ***
20  DIM A$(8,5)
30  FOR I = 1 TO 8
40  FOR J = 1 TO 5
50  READ A$(I,J)
60  NEXT J
70  NEXT I
80  REM  *** MENU ***
90  HOME
100  HTAB 18: VTAB 8
110  PRINT "MENU"
120  PRINT : PRINT
130  HTAB 16: PRINT "1. EDIT"
140  HTAB 16: PRINT "2. SORT"
150  HTAB 16: PRINT "3. SEARCH"
160  HTAB 16: PRINT "4. PRINT"
170  HTAB 16: PRINT "5. QUIT"
180  VTAB 20
190  INPUT "SELECT 1,2,3,4 OR 5 ";B
200  ON B GOTO 300,520,710,859,2000
300  REM  *** EDIT ***
310  HOME : VTAB 3
320  PRINT "CHANGE DATA FOR WHICH SCHOOL? "
325  PRINT : INPUT "";C$
330  FOR I = 1 TO 8
340  IF A$(I,1) = C$ THEN 370
350  NEXT I
360  GOTO 90
370  PRINT
380  FOR J = 1 TO 5
390  PRINT A$(I,J); SPC( 3);
400  NEXT J
410  PRINT : PRINT
420  INPUT "WHICH FIELD DO YOU WISH TO CHANGE ? ";K
430  PRINT
440  PRINT "CHANGE ";A$(I,K)
450  PRINT
460  INPUT "TO     ";A$(I,K)
464  PRINT : PRINT "THE CORRECTED RECORD IS"
465  PRINT
466  FOR J = 1 TO 5
467  PRINT A$(I,J); SPC( 3);
468  NEXT J
```

```
469  PRINT
470  VTAB 22
480  INPUT "MORE CHANGES (Y/N)? ";X$
490  IF X$ = "N" THEN 90
500  HOME : VTAB 9
510  GOTO 380
520  REM  ** SORT ON WINS **
530  HOME
540  PRINT "SORT ON CONFERENCE WINS"
550  FOR I = 1 TO 7
560  FOR J = I + 1 TO 8
570 A =  VAL (A$(I,2)):B =  VAL (A$(J,2))
580  IF A > B THEN 670
590  FOR K = 1 TO 5
600 D$ = A$(I,K)
610 A$(I,K) = A$(J,K)
620 A$(J,K) = D$
650  NEXT K
670  NEXT J
690  NEXT I
700  GOTO 859
710  REM  ** SEARCH FOR DATA **
720  HOME
730  PRINT "SEARCH FOR DATA FROM WHICH SCHOOL? "
740  PRINT : PRINT
750  FOR I = 1 TO 8
760  PRINT A$(I,1)
770  NEXT I
780  PRINT : PRINT
790  INPUT "MAKE SELECTION ";D$
810  FOR I = 1 TO 8
820  IF A$(I,1) = D$ THEN 844
830  NEXT I
835  PRINT : PRINT
838  PRINT "*** ";D$;" NOT FOUND ***"
840  PRINT : PRINT
841  PRINT "PRESS RETURN TO CONTINUE"
842  GET A$
843  GOTO 710
844 X = 20: PRINT : PRINT
845  FOR J = 1 TO 5
846  PRINT A$(I,J); TAB( X);
847 X = X + 3
848  NEXT J
849  PRINT
850  VTAB 20
851  PRINT "PRESS RETURN FOR MENU "
852  GET A$
853  GOTO 80
859  REM   ** PRINT ROUTINE **
860  HOME : HTAB 17
870  PRINT "BIG 8"
880  HTAB 10
890  PRINT "CONFERNECE STANDINGS"
```

```
900  PRINT : PRINT
910  PRINT "SCHOOL"; TAB( 20);"CW"; TAB( 23);"CL"; TAB( 28);"SW"; TAB( 31)
     ;"SL"
920  PRINT
930  PRINT
940  FOR I = 1 TO 8
945 X = 20
950  FOR J = 1 TO 5
960  PRINT A$(I,J); TAB( X);
970  IF J = 2 THEN X = 25
980 X = X + 3
990  NEXT J
1000  PRINT
1010  NEXT I
1020  VTAB 22
1030  PRINT "PRESS RETURN FOR MENU"
1040  GET A$
1050  GOTO 80
1990  DATA     NEBRASKA,9,5,18,8
1991  DATA     OKLAHOMA ,10,4,23,7
1992  DATA     KANSAS ST,4,10,12,15
1993  DATA     IOWA ST,5,9,13,14
1994  DATA     MISSOURI,12,2,24,6
1995  DATA     OKLAHOMA ST,9,5,21,6
1996  DATA     KANSAS,4,10,12,14
1997  DATA    COLORADO,3,11,13,14
2000  END
```

]



DATA PROCESSING OCCUPATIONS
COMPETENCY NO. 8
Teacher Key
Hierarchy Chart

```
1  IBM DOS VS COBOL                        REL 2.5 + PTF53 PP NO. 5746-CB

 CBL STATE
00001           IDENTIFICATION DIVISION.
00002           PROGRAM-ID.     CASE PROBLEM.
00003           AUTHOR.
00004           DATE-WRITTEN.
00005
00006          ************************************************************
00007          *    THIS PROGRAM IS DESIGNED TO PREPARE AN INVESTMENT     *
00008          *  LOAN REPORT.  IT WILL LIST ALL LOANS MADE FOR CUSTOMERS  *
00009          *  BY THE VARIOUS LOAN OFFICERS OF THE SMITH & JONES        *
00010          *  INVESTMENT COMPANY.                                      *
00011          ************************************************************
00012
00013           ENVIRONMENT DIVISION.
00014           CONFIGURATION SECTION.
00015           SOURCE-COMPUTER.     IBM-4331.
00016           OBJECT-COMPUTER.     IBM-4331.
00017           SPECIAL-NAMES.       C01 IS TO-TOP-OF-PAGE.
00018
00019           INPUT-OUTPUT SECTION.
00020           FILE-CONTROL.
00021               SELECT LOAN-TRANS-INPUT-FILE
00022                   ASSIGN TO SYS023-UR-1442R-S.
00023               SELECT LOAN-REPORT-FILE
00024                   ASSIGN TO SYS024-UR-3203-S.
00025
00026           DATA DIVISION.
00027           FILE SECTION.
00028           FD  LOAN-TRANS-INPUT-FILE
00029               RECORD CONTAINS 80 CHARACTERS
00030               LABEL RECORDS ARE OMITTED
00031               DATA RECORD IS LOAN-TRANS-REC.
00032
00033           01  LOAN-TRANS-REC.
00034               05  LOAN-OFFICER-NUMBER PIC 99.
00035               05  FILLER              PIC XX.
00036               05  CUSTOMER-NUMBER     PIC 9(5).
00037               05  FILLER              PIC X.
00038               05  NOTE-NUMBER         PIC 9(6).
00039               05  FILLER              PIC XXX.
00040               05  NOTE-DATE           PIC 9(6).
00041               05  LOAN-AMOUNT         PIC 9(6)V99.
00042                   88  CLASS-A-LOAN    VALUES 0.00 THRU 2500.00.
00043                   88  CLASS-B-LOAN    VALUES 2500.01 THRU 5000.00.
00044                   88  CLASS-C-LOAN    VALUES 5000.01 THRU 10000.00.
00045                   88  CLASS-D-LOAN    VALUES 10000.01 THRU 999999.99.
00046               05  INTEREST-DUE-DATE   PIC 9(6).
00047               05  LOAN-MATURITY-DATE  PIC 9(6).
00048               05  FILLER              PIC X(35).
00049
00050           FD  LOAN-REPORT-FILE
00051               RECORD CONTAINS 133 CHARACTERS
00052               LABEL RECORDS ARE OMITTED
```

```
2          CASE              14.07.31          04/25/83

00053              DATA RECORD IS LOAN-REPORT-REC.
00054
00055          01  LOAN-REPORT-REC            PIC X(133).
00056
00057          WORKING-STORAGE SECTION.
00058          01  PROGRAM-INDICATORS.
00059              05  ARE-THERE-MORE-RECORDS  PIC XXX VALUE 'YES'.
00060                  88  THERE-IS-A-RECORD           VALUE 'YES'.
00061                  88  THERE-ARE-NO-RECORDS        VALUE 'NO '.
00062              05  DID-LOAN-OFFICER-CHANGE PIC XXX VALUE 'NO '.
00063                  88  THE-LOAN-OFFICER-CHANGED    VALUE 'YES'.
00064              05  DID-CUSTOMER-CHANGE     PIC XXX VALUE 'NO '.
00065                  88  THE-CUSTOMER-CHANGED        VALUE 'YES'.
00066              05  IS-FIRST-CUST           PIC XXX VALUE 'YES'.
00067                  88  FIRST-CUSTOMER              VALUE 'YES'.
00068
00069          01  PROGRAM-COMPARE-AREAS.
00070              05  PREV-OFFICER-NUMBER     PIC 99   COMP-3.
00071              05  PREV-CUSTOMER-NUMBER    PIC 9(5) COMP-3.
00072
00073          01  TOTAL-ACCUMULATORS          USAGE IS COMP-3.
00074              05  CUST-TOT-LOAN-AMT   PIC 9(7)V99 VALUE ZERO.
00075              05  CUST-TOT-INTEREST   PIC 9(6)V99 VALUE ZERO.
00076              05  CUST-TOT-BAL-DUE    PIC 9(7)V99 VALUE ZERO.
00077              05  OFF-TOT-LOAN-AMT    PIC 9(7)V99 VALUE ZERO.
00078              05  OFF-TOT-INTEREST    PIC 9(6)V99 VALUE ZERO.
00079              05  OFF-TOT-BAL-DUE     PIC 9(7)V99 VALUE ZERO.
00080              05  FINAL-TOT-LOAN-AMT  PIC 9(8)V99 VALUE ZERO.
00081              05  FINAL-TOT-INTEREST  PIC 9(7)V99 VALUE ZERO.
00082              05  FINAL-TOT-BAL-DUE   PIC 9(8)V99 VALUE ZERO.
00083
00084          01  MESSAGE-CONSTANTS.
00085              05  CUSTOMER-CONS   PIC X(19) VALUE 'CUSTOMER TOTALS    '.
00086              05  OFFICER-CONS    PIC X(19) VALUE 'LOAN OFFICER TOTALS'.
00087              05  CUST-ASTERISK   PIC XXX   VALUE ' * '.
00088              05  OFF-ASTERISK    PIC XXX   VALUE ' **'.
00089              05  PERCENT-CONS    PIC X     VALUE '%'.
00090
00091          01  WORK-AREAS.
00092              05  VARIABLE-INTEREST   PIC 9(5)V99 VALUE ZERO.
00093              05  TOTAL-INTEREST      PIC 9(5)V99 VALUE ZERO.
00094              05  BALANCE-DUE         PIC 9(6)V99 VALUE ZERO.
00095
00096          01  PROGRAM-CONSTANTS   USAGE IS COMP-3.
00097              05  CLASS-B-FEE     PIC 99V99 VALUE 22.50.
00098              05  CLASS-C-FEE     PIC 99V99 VALUE 45.00.
00099              05  CLASS-D-FEE     PIC 99V99 VALUE 45.00.
00100
00101          01  LOAN-OFFICER-MESSAGE.
00102              05  MESG-PART1      PIC X(8) VALUE 'OFFICER '.
00103              05  MESG-OFFICER-NO PIC XX.
00104              05  MESG-PART-2     PIC X(11) VALUE ' IS INVALID'.
00105
```

```
3        CASE            14.07.31        04/25/83

00106          01  PROGRAM-TABLES.
00107              05  LOAN-OFFICER-TABLE.
00108                  10  OFFICER-CONSTANTS.
00109                      15  FILLER PIC X(23) VALUE '10DALE RENNER          '.
00110                      15  FILLER PIC X(23) VALUE '25TERRY BUSTEED        '.
00111                      15  FILLER PIC X(23) VALUE '30BRAD HEIMAN          '.
00112                      15  FILLER PIC X(23) VALUE '40WAYNE WARNKY         '.
00113                      15  FILLER PIC X(23) VALUE '45ROY SMITH            '.
00114                      15  FILLER PIC X(23) VALUE '50DAN DANIEL           '.
00115                      15  FILLER PIC X(23) VALUE '55MIKE JONES           '.
00116                  10  OFFICER-CONSTANTS-TABLE REDEFINES OFFICER-CONSTANTS
00117                          OCCURS 7 TIMES ASCENDING KEY IS OFFICER-NO
00118                          INDEXED BY OFFICER-IND.
00119                      15  OFFICER-NO      PIC 99.
00120                      15  OFFICER-NAME    PIC X(21).
00121
00122              05  INTEREST-RATE-TABLE.
00123                  10  INTEREST-CONSTANTS.
00124                      15  FILLER PIC X(12) VALUE '002500000566'.
00125                      15  FILLER PIC X(12) VALUE '005000000476'.
00126                      15  FILLER PIC X(12) VALUE '010000000431'.
00127                      15  FILLER PIC X(12) VALUE '999999990400'.
00128                  10  INTEREST-CONSTANTS-TABLE REDEFINES INTEREST-CONSTANTS
00129                          OCCURS 4 TIMES ASCENDING KEY IS LOAN-VALUE
00130                          INDEXED BY LOAN-IND.
00131                      15  LOAN-VALUE      PIC 9(6)V99.
00132                      15  INTEREST-RATE   PIC V9999.
00133
00134          01  PRINTER-CONTROL.
00135              05  PROPER-SPACING      PIC 9.
00136              05  SPACE-ONE-LINE      PIC 9   VALUE 1.
00137              05  SPACE-TWO-LINES     PIC 9   VALUE 2.
00138              05  SPACE-THREE-LINES   PIC 9   VALUE 3.
00139              05  LINES-PRINTED       PIC S99 VALUE ZERO.
00140              05  PAGE-SIZE           PIC S99 VALUE +40.
00141              05  PAGE-COUNT          PIC S99 VALUE +1.
00142                  88  FIRST-PAGE             VALUE +1.
00143
00144          01  HEADING-LINE1.
00145              05  CARRIAGE-CONTROL    PIC X.
00146              05  FILLER              PIC X(51) VALUE SPACES.
00147              05  FILLER              PIC X(31)
00148                  VALUE 'SMITH & JONES INVESTMENTS, INC.'.
00149              05  FILLER              PIC X(50) VALUE SPACES.
00150
00151          01  HEADING-LINE2.
00152              05  CARRIAGE-CONTROL    PIC X.
00153              05  FILLER              PIC X(11) VALUE SPACES.
00154              05  DATE-OUT            PIC X(8).
00155              05  FILLER              PIC X(36) VALUE SPACES.
00156              05  FILLER              PIC X(22)
00157                  VALUE 'INVESTMENT LOAN REPORT'.
00158              05  FILLER              PIC X(36) VALUE SPACES.
```

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4        CASE              14.07.31        04/25/83

00159              05  FILLER                  PIC X(5)  VALUE 'PAGE '.
00160              05  PAGE-SIZE-OUT           PIC ZZ9.
00161              05  FILLER                  PIC X(11) VALUE SPACES.
00162
00163          01  HEADING-LINE3.
00164              05  CARRIAGE-CONTROL        PIC X.
00165              05  FILLER                  PIC X(15) VALUE SPACES.
00166              05  FILLER                  PIC X(43)
00167                  VALUE 'LOAN OFFICER          CUSTOMER     NOTE       '.
00168              05  FILLER                  PIC X(41)
00169                  VALUE 'MATURITY          LOAN        INTEREST       '.
00170              05  FILLER                  PIC X(33)
00171                  VALUE 'TOTAL       BALANCE DUE             '.
00172
00173          01  HEADING-LINE4.
00174              05  CARRIAGE-CONTROL        PIC X.
00175              05  FILLER                  PIC X(19) VALUE SPACES.
00176              05  FILLER                  PIC X(45)
00177                  VALUE 'NAME                  NUMBER      NUMBER        DATE'.
00178              05  FILLER                  PIC X(23)
00179                  VALUE '          AMOUNT          '.
00180              05  FILLER                  PIC X(45)
00181                  VALUE 'RATE     INTEREST DUE      ON LOAN                '.
00182              05  FILLER                  PIC X(19) VALUE SPACES.
00183              05  FILLER                  PIC X(19) VALUE SPACES.
00184              05  FILLER                  PIC X(19) VALUE SPACES.
00185              05  FILLER                  PIC X(19) VALUE SPACES.
00186              05  FILLER                  PIC X(19) VALUE SPACES.
00187              05  FILLER                  PIC X(19) VALUE SPACES.
00188              05  FILLER                  PIC X(19) VALUE SPACES.
00189              05  FILLER                  PIC X(19) VALUE SPACES.
00190              05  FILLER                  PIC X(19) VALUE SPACES.
00191
00192          01  DETAIL-LINE.
00193              05  CARRIAGE-CONTROL        PIC X.
00194              05  FILLER                  PIC X(11) VALUE SPACES.
00195              05  OFFICER-NAME-OUT        PIC X(21).
00196              05  FILLER                  PIC X(5)  VALUE SPACES.
00197              05  CUSTOMER-NUMBER-OUT     PIC X(5).
00198              05  FILLER                  PIC X(5)  VALUE SPACES.
00199              05  NOTE-NUMBER-OUT         PIC 9(6).
00200              05  FILLER                  PIC X(5)  VALUE SPACES.
00201              05  MATURITY-DATE-OUT       PIC 99B99B99.
00202              05  FILLER                  PIC X(5)  VALUE SPACES.
00203              05  LOAN-AMOUNT-OUT         PIC ZZZ,ZZZ.99.
00204              05  FILLER                  PIC X(5)  VALUE SPACES.
00205              05  INTEREST-RATE-OUT       PIC 99.99.
00206              05  PERCENT-OUT             PIC X.
00207              05  FILLER                  PIC X(5)  VALUE '     '.
00208              05  INTEREST-DUE-OUT        PIC ZZ,ZZZ.99.
00209              05  FILLER                  PIC X(5)  VALUE SPACES.
00210              05  BALANCE-DUE-OUT         PIC ZZZ,ZZZ.99.
00211              05  FILLER                  PIC X(11) VALUE SPACES.
```

```
5        CASE            14.07.31        04/25/83

00212
00213          01  SUB-TOTAL-LINE.
00214              05  CARRIAGE-CONTROL     PIC X.
00215              05  FILLER               PIC X(28) VALUE SPACES.
00216              05  SUB-CONSTANT         PIC X(19).
00217              05  FILLER               PIC X(22) VALUE SPACES.
00218              05  SUB-LOAN-AMT         PIC Z,ZZZ,ZZZ.99.
00219              05  FILLER               PIC X(15) VALUE SPACES.
00220              05  SUB-INTEREST         PIC ZZZ,ZZZ.99.
00221              05  FILLER               PIC XXX   VALUE SPACES.
00222              05  SUB-BAL-CLE          PIC Z,ZZZ,ZZZ.99.
00223              05  ASTERISK-CON         PIC XXX.
00224              05  FILLER               PIC X(8)  VALUE SPACES.
00225
00226          01  FINAL-TOTAL-LINE.
00227              05  CARRIAGE-CONTROL     PIC X.
00228              05  FILLER               PIC X(28) VALUE SPACES.
00229              05  FIN-CONSTANT         PIC X(12) VALUE 'FINAL TOTALS'.
00230              05  FILLER               PIC X(28) VALUE SPACES.
00231              05  FIN-LOAN-AMT         PIC ZZ,ZZZ,ZZZ.99.
00232              05  FILLER               PIC X(13) VALUE SPACES.
00233              05  FIN-INTEREST         PIC Z,ZZZ,ZZZ.99.
00234              05  FILLER               PIC XX    VALUE SPACES.
00235              05  FIN-BAL-CLE          PIC ZZ,ZZZ,ZZZ.99.
00236              05  FILLER               PIC X(11) VALUE ' ***      '.
00237
00238          PROCEDURE DIVISION.
00239
00240         *****************************************************************
00241         *    THIS MODULE SERVES AS THE CONTROLLING MODULE FOR           *
00242         *  ALL MAIN-LINE PROCESSING IN STRUCTURED FORMAT.               *
00243         *****************************************************************
00244
00245          A000-CREATE-LOAN-REPORT.
00246              OPEN INPUT LOAN-TRANS-INPUT-FILE
00247                   OUTPUT LOAN-REPORT-FILE.
00248
00249              PERFORM B000-READ-LOAN-CARD
00250                  THRU B000-EXIT.
00251
00252              IF THERE-IS-A-RECORD
00253                  MOVE CUSTOMER-NUMBER TO PREV-CUSTOMER-NUMBER,
00254                  CUSTOMER-NUMBER-OUT
00255                  MOVE LOAN-OFFICER-NUMBER TO PREV-OFFICER-NUMBER
00256                  PERFORM B010-PROCESS-LOAN-CARDS THRU B010-EXIT
00257                      UNTIL THERE-ARE-NO-RECORDS
00258                  PERFORM B020-END-TOTALS THRU B020-EXIT.
00259
00260              CLOSE LOAN-TRANS-INPUT-FILE
00261                    LOAN-REPORT-FILE.
00262
00263              STOP RUN.
00264          A000-EXIT.
```

```
6          CASE              14.07.31          04/25/83

00265              EXIT.
00266
00267          B000-READ-LOAN-CARD.
00268              READ LOAN-TRANS-INPUT-FILE
00269                  AT END
00270                      MOVE 'NO ' TO ARE-THERE-MORE-RECORDS.
00271          B000-EXIT.
00272              EXIT.
00273
00274         ****************************************************************
00275         *    THIS MODULE IS REPEATED FOR EVERY RECORD READ.  IT IS     *
00276         *  USED TO DETERMINE WHEN TO TAKE A CUSTOMER OR OFFICER        *
00277         *  CONTROL BREAK.                                              *
00278         ****************************************************************
00279
00280          B010-PROCESS-LOAN-CARDS.
00281              IF LOAN-OFFICER-NUMBER NOT = PREV-OFFICER-NUMBER
00282                  PERFORM C010-CUSTOMER-CHANGE THRU C010-EXIT
00283                  PERFORM C020-OFFICER-CHANGE THRU C020-EXIT
00284                  MOVE 'YES' TO DID-LOAN-OFFICER-CHANGE
00285              ELSE
00286                  IF CUSTOMER-NUMBER NOT = PREV-CUSTOMER-NUMBER
00287                  PERFORM C010-CUSTOMER-CHANGE THRU C010-EXIT
00288                  MOVE 'YES' TO DID-CUSTOMER-CHANGE.
00289
00290              PERFORM C000-PROCESS-DETAIL THRU C000-EXIT.
00291              PERFORM B000-READ-LOAN-CARD THRU B000-EXIT.
00292          B010-EXIT.
00293              EXIT.
00294
00295          B020-END-TOTALS.
00296              PERFORM C010-CUSTOMER-CHANGE THRU C010-EXIT.
00297              PERFORM C020-OFFICER-CHANGE THRU C020-EXIT.
00298
00299              MOVE FINAL-TOT-LOAN-AMT TO FIN-LOAN-AMT.
00300              MOVE FINAL-TOT-INTEREST TO FIN-INTEREST.
00301              MOVE FINAL-TOT-BAL-DUE TO FIN-BAL-DUE.
00302              MOVE SPACE-THREE-LINES TO PROPER-SPACING.
00303              WRITE LOAN-REPORT-REC FROM FINAL-TOTAL-LINE
00304                  AFTER PROPER-SPACING.
00305          B020-EXIT.
00306              EXIT.
00307
00308          C000-PROCESS-DETAIL.
00309              IF LINES-PRINTED IS EQUAL TO PAGE-SIZE OR
00310                  IS GREATER THAN PAGE-SIZE OR FIRST-PAGE
00311                      PERFORM D010-PRINT-HEADINGS THRU D010-EXIT
00312                      PERFORM D000-DETERMINE-OFFICER THRU D000-EXIT
00313                      MOVE CUSTOMER-NUMBER TO CUSTOMER-NUMBER-OUT.
00314
00315              IF THE-LOAN-OFFICER-CHANGED
00316                  PERFORM D000-DETERMINE-OFFICER THRU D000-EXIT
00317                  MOVE CUSTOMER-NUMBER TO CUSTOMER-NUMBER-OUT
```

7 - CASE 14.07.31 04/25/83

```
00318                   MOVE 'NO ' TO DIC-LOAN-OFFICER-CHANGE
00319               ELSE
00320                   IF THE-CUSTOMER-CHANGED
00321                       MOVE CUSTOMER-NUMBER TO CUSTOMER-NUMBER-OUT
00322                       MOVE 'NO ' TO DIC-CUSTOMER-CHANGE.
00323
00324               MOVE NOTE-NUMBER TO NOTE-NUMBER-OUT.
00325               MOVE LOAN-MATURITY-DATE TO MATURITY-DATE-OUT.
00326               EXAMINE MATURITY-DATE-OUT REPLACING ALL ' ' BY '/'.
00327               MOVE LOAN-AMOUNT TO LOAN-AMOUNT-OUT.
00328
00329               SET LOAN-IND TO 1.
00330               SEARCH INTEREST-CONSTANTS-TABLE
00331                   WHEN LOAN-AMOUNT IS LESS THAN LOAN-VALUE (LOAN-IND) OR
00332                       EQUAL TO LOAN-VALUE (LOAN-IND)
00333                           MULTIPLY INTEREST-RATE (LOAN-IND) BY 100
00334                               GIVING INTEREST-RATE-OUT ROUNDED
00335                           COMPUTE VARIABLE-INTEREST ROUNDED =
00336                               LOAN-AMOUNT * INTEREST-RATE (LOAN-IND).
00337
00338               IF CLASS-A-LOAN
00339                   MOVE VARIABLE-INTEREST TO INTEREST-DUE-OUT.
00340                   TOTAL-INTEREST
00341               ELSE
00342                   IF CLASS-B-LOAN
00343                       COMPUTE TOTAL-INTEREST ROUNDED =
00344                           VARIABLE-INTEREST + CLASS-B-FEE
00345                       MOVE TOTAL-INTEREST TO INTEREST-DUE-OUT
00346                   ELSE
00347                       IF CLASS-C-LOAN
00348                           COMPUTE TOTAL-INTEREST ROUNDED =
00349                               VARIABLE-INTEREST + CLASS-C-FEE
00350                           MOVE TOTAL-INTEREST TO INTEREST-DUE-OUT
00351                       ELSE
00352                           IF CLASS-D-LOAN
00353                               COMPUTE TOTAL-INTEREST ROUNDED =
00354                                   VARIABLE-INTEREST + CLASS-D-FEE
00355                               MOVE TOTAL-INTEREST TO INTEREST-DUE-OUT.
00356
00357               MOVE PERCENT-CONS TO PERCENT-OUT.
00358               SUBTRACT TOTAL-INTEREST FROM LOAN-AMOUNT
00359                   GIVING BALANCE-DUE.
00360               MOVE BALANCE-DUE TO BALANCE-DUE-OUT.
00361
00362               ADD LOAN-AMOUNT TO CUST-TOT-LOAN-AMT.
00363               ADD LOAN-AMOUNT TO OFF-TOT-LOAN-AMT.
00364               ADD LOAN-AMOUNT TO FINAL-TOT-LOAN-AMT.
00365
00366               ADD TOTAL-INTEREST TO CUST-TOT-INTEREST.
00367               ADD TOTAL-INTEREST TO OFF-TOT-INTEREST.
00368               ADD TOTAL-INTEREST TO FINAL-TOT-INTEREST.
00369
00370               ADD BALANCE-DUE TO CUST-TOT-BAL-DUE.
```

```
8          CASE            14.07.31        04/25/83

00371           ADD BALANCE-DUE TO OFF-TOT-BAL-DUE.
00372           ADD BALANCE-DUE TO FINAL-TOT-BAL-DUE.
00373
00374           WRITE LOAN-REPORT-REC FROM DETAIL-LINE
00375               AFTER PROPER-SPACING.
00376           ADD PROPER-SPACING TO LINES-PRINTED.
00377           MOVE SPACE-ONE-LINE TO PROPER-SPACING.
00378           MOVE SPACES TO DETAIL-LINE.
00379       C000-EXIT.
00380           EXIT.
00381
00382       C010-CUSTOMER-CHANGE.
00383           MOVE SPACE-TWO-LINES TO PROPER-SPACING.
00384           MOVE CUSTOMER-CONS TO SUB-CONSTANT.
00385           MOVE CUST-TOT-LOAN-AMT TO SUB-LOAN-AMT.
00386           MOVE CUST-TOT-INTEREST TO SUB-INTEREST.
00387           MOVE CUST-TOT-BAL-DUE TO SUB-BAL-DUE.
00388           MOVE CUST-ASTERISK TO ASTERISK-CON.
00389           WRITE LOAN-REPORT-REC FROM SUB-TOTAL-LINE
00390               AFTER PROPER-SPACING.
00391           ADD PROPER-SPACING TO LINES-PRINTED.
00392           MOVE ZEROS TO CUST-TOT-LOAN-AMT
00393                         CUST-TOT-INTEREST
00394                         CUST-TOT-BAL-DUE.
00395           MOVE CUSTOMER-NUMBER TO PREV-CUSTOMER-NUMBER.
00396       C010-EXIT.
00397           EXIT.
00398
00399       C020-OFFICER-CHANGE.
00400           MOVE SPACE-TWO-LINES TO PROPER-SPACING.
00401           MOVE OFFICER-CONS TO SUB-CONSTANT.
00402           MOVE OFF-TOT-LOAN-AMT TO SUB-LOAN-AMT.
00403           MOVE OFF-TOT-INTEREST TO SUB-INTEREST.
00404           MOVE OFF-TOT-BAL-DUE TO SUB-BAL-DUE.
00405           MOVE OFF-ASTERISK TO ASTERISK-CON.
00406           WRITE LOAN-REPORT-REC FROM SUB-TOTAL-LINE
00407               AFTER PROPER-SPACING.
00408           ADD PROPER-SPACING TO LINES-PRINTED.
00409           MOVE ZEROS TO OFF-TOT-LOAN-AMT
00410                         OFF-TOT-INTEREST
00411                         OFF-TOT-BAL-DUE.
00412           MOVE LOAN-OFFICER-NUMBER TO PREV-OFFICER-NUMBER.
00413       C020-EXIT.
00414           EXIT.
00415
00416       D000-DETERMINE-OFFICER.
00417           SEARCH ALL OFFICER-CONSTANTS-TABLE
00418               AT END
00419                   MOVE LOAN-OFFICER-NUMBER TO MESG-OFFICER-NO
00420                   MOVE LOAN-OFFICER-MESSAGE TO OFFICER-NAME-OUT
00421               WHEN OFFICER-NO (OFFICER-IND) = LOAN-OFFICER-NUMBER
00422                   MOVE OFFICER-NAME (OFFICER-IND) TO OFFICER-NAME-OUT.
00423       D000-EXIT.
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9          CASE              14.07.31          04/25/83

00424                EXIT.
00425
00426           D010-PRINT-HEADINGS.
00427                WRITE LOAN-REPORT-REC FROM HEADING-LINE1
00428                    AFTER ADVANCING TO-TOP-OF-PAGE.
00429                MOVE CURRENT-DATE TO DATE-OUT.
00430                MOVE PAGE-COUNT TO PAGE-SIZE-OUT.
00431                WRITE LOAN-REPORT-REC FROM HEADING-LINE2
00432                    AFTER ADVANCING 2 LINES.
00433                ADD 1 TO PAGE-COUNT.
00434                WRITE LOAN-REPORT-REC FROM HEADING-LINE3
00435                    AFTER ADVANCING 2 LINES.
00436                WRITE LOAN-REPORT-REC FROM HEADING-LINE4
00437                    AFTER ADVANCING 1 LINES.
00438                MOVE ZERO TO LINES-PRINTED.
00439                MOVE SPACE-THE-LINES TO PROPER-SPACING.
00440           D010-EXIT.
00441                EXIT.
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SMITH & JONES INVESTMENTS, INC.

04/25/83 INVESTMENT LOAN REPORT PAGE 1

LOAN OFFICER NAME	CUSTOMER NUMBER	NOTE NUMBER	MATURITY DATE	LOAN AMOUNT	INTEREST RATE	TOTAL INTEREST DUE	BALANCE DUE ON LOAN	
DALE RENNER	11223	011113	01/22/87	500.00	05.66%	28.30	471.70	
		137652	03/17/87	3,500.00	04.76%	189.10	3,310.90	
	CUSTOMER TOTALS			4,000.00		217.40	3,782.60	*
	98555	113510	12/11/97	90,000.00	04.00%	3,645.00	86,355.00	
	CUSTOMER TOTALS			90,000.00		3,645.00	86,355.00	*
	LOAN OFFICER TOTALS			94,000.00		3,862.40	90,137.60	**
TERRY BUSTEED	00120	573535	06/12/87	5,000.00	04.76%	260.50	4,739.50	
	CUSTOMER TOTALS			5,000.00		260.50	4,739.50	*
	11110	777321	09/26/02	950,000.00	04.00%	38,045.00	911,955.00	
	CUSTOMER TOTALS			950,000.00		38,045.00	911,955.00	*
	LOAN OFFICER TOTALS			955,000.00		38,305.50	916,694.50	**
BRAD HEIMAN	33500	001115	02/11/92	75,000.00	04.00%	3,045.00	71,955.00	
	CUSTOMER TOTALS			75,000.00		3,045.00	71,955.00	*
	LOAN OFFICER TOTALS			75,000.00		3,045.00	71,955.00	**
OFFICER 35 IS INVALID	73215	983113	11/16/87	300.00	05.66%	16.98	283.02	
	CUSTOMER TOTALS			300.00		16.98	283.02	*
	LOAN OFFICER TOTALS			300.00		16.98	283.02	**
WAYNE WARNKY	33117	038111	07/26/87	10,000.00	04.31%	476.00	9,524.00	
	CUSTOMER TOTALS			10,000.00		476.00	9,524.00	*
	02143	573751	05/01/92	7,500.00	04.31%	368.25	7,131.75	
		588833	05/01/87	2,500.00	05.66%	141.50	2,358.50	

COMPETENCY NO. 8
Teacher Key
(Continued)
Output Results

SMITH & JONES INVESTMENTS, INC.

04/25/83 INVESTMENT LOAN REPORT PAGE 2

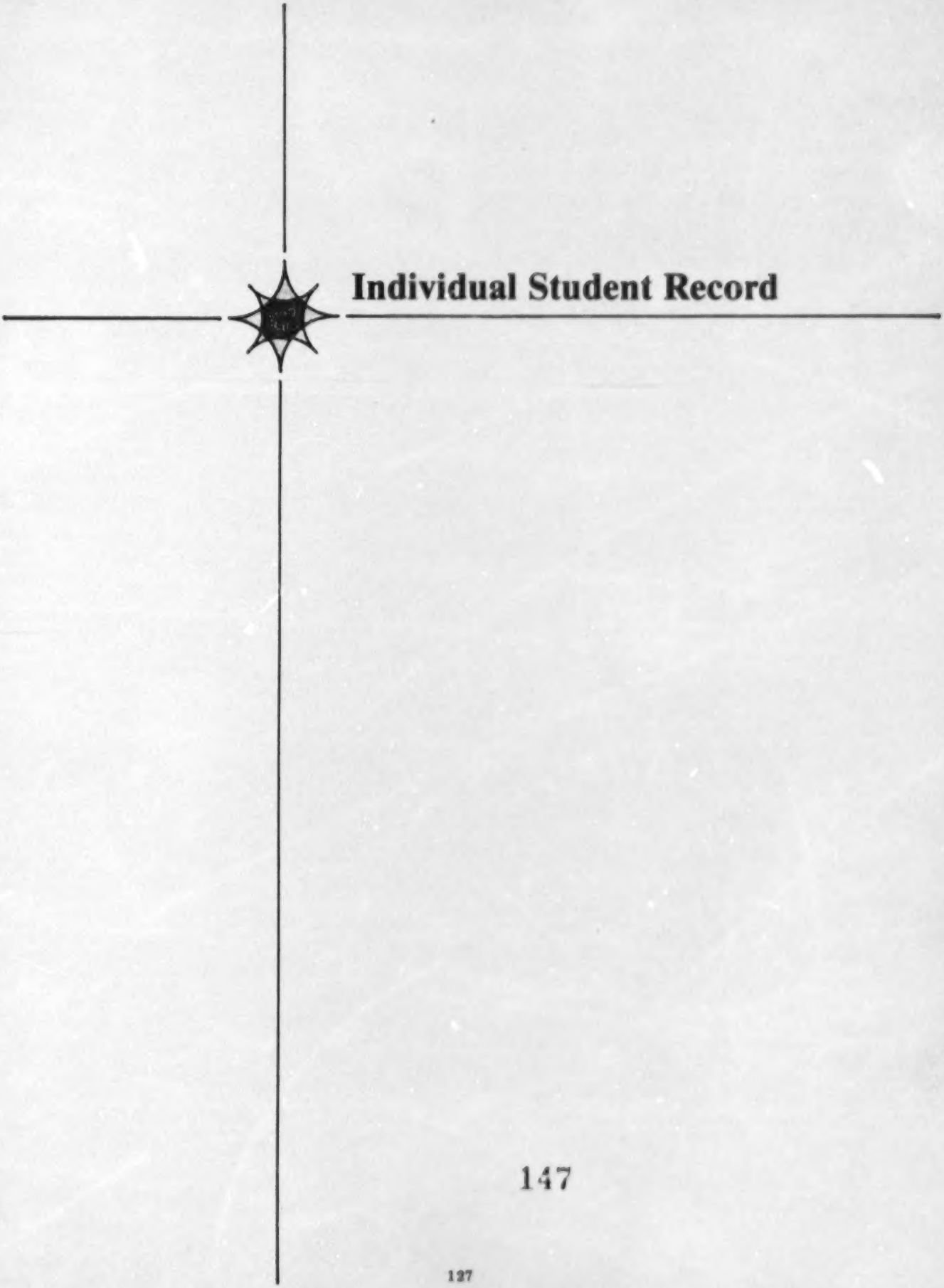
LOAN OFFICER NAME		CUSTOMER NUMBER	NOTE NUMBER	MATURITY DATE	LOAN AMOUNT	INTEREST RATE	TOTAL INTEREST DUE	BALANCE DUE ON LOAN	
WAYNE WARNKY		02143	757321	06/15/92	10,100.00	04.00%	449.00	9,651.00	
	CUSTOMER TOTALS				20,100.00		958.75	19,141.25	*
		53411	015777	08/30/02	750,000.00	04.00%	30,045.00	719,955.00	
	CUSTOMER TOTALS				750,000.00		30,045.00	719,955.00	*
	LOAN OFFICER TOTALS				780,100.00		31,479.75	748,620.25	**
ROY SMITH		01133	637773	02/28/97	80,000.00	04.00%	3,245.00	76,755.00	
	CUSTOMER TOTALS				80,000.00		3,245.00	76,755.00	*
		03521	725011	01/31/87	10,500.00	04.00%	465.00	10,035.00	
	CUSTOMER TOTALS				10,500.00		465.00	10,035.00	*
	LOAN OFFICER TOTALS				90,500.00		3,710.00	86,790.00	**
DAN DANIEL		09211	011133	08/15/92	25,400.00	04.00%	1,061.00	24,339.00	
	CUSTOMER TOTALS				25,400.00		1,061.00	24,339.00	*
		23756	445001	06/30/87	1,300.00	05.66%	73.58	1,226.42	
			873222	07/05/87	250.00	05.66%	14.15	235.85	
	CUSTOMER TOTALS				1,550.00		87.73	1,462.27	*
	LOAN OFFICER TOTALS				26,950.00		1,148.73	25,801.27	**
MIKE JONES		22222	777733	11/15/02	500,000.00	04.00%	20,045.00	479,955.00	
	CUSTOMER TOTALS				500,000.00		20,045.00	479,955.00	*
		78113	827262	12/24/97	75,500.00	04.00%	3,065.00	72,435.00	
	CUSTOMER TOTALS				75,500.00		3,065.00	72,435.00	*
		98999	113313	12/31/92	7,250.00	04.31%	357.48	6,892.52	
	CUSTOMER TOTALS				7,250.00		357.48	6,892.52	*
	LOAN OFFICER TOTALS				582,750.00		23,467.48	559,282.52	**
	FINAL TOTALS				2,604,600.00		105,035.84	2,499,564.16	***

126

145

COMPETENCY NO. 7.8
Teacher Key
(Continued)
Output Results

16



147

COMPUTER LITERACY AND DATA PROCESSING OCCUPATIONS

Name of Student

School Stamp

This is to certify that the above named student has demonstrated proficiency in the following tasks:

Computer Literacy Competency Task	Date Completed	Instructor
1. Hardware software and systems A. Basic components B. Hardware/software definitions C. Basic terms D. Media		
2. Computer languages A. Definitions B. Flow chart C. Basic program (read and interpret) D. Coding and writing BASIC program		
3. Computer usage and applications A. Applications B. Activities C. Reasons for using computer		
4. Career opportunities A. Major career levels B. Career level tasks performed C. Career level skills, characteristics, education and experience		
5. Effects of computers on society and about data control A. Positive and negative effects B. Data control security		

Computer Literacy Competency Task	Date Completed	Instructor
6. Stages of development of computers		
7. Computer vocabulary		
8. Operate microcomputer		

Data Processing Occupations Competency Task	Date Completed	Instructor
Data Entry 1. Determine program control		
2. Enter data		
Machine Operation 3. Operate input/output device		
4. Operate console		
5. Operate printer		
6. Operate a console printer		
Programming 7. Write BASIC program		
8. Write COBOL program		

Student Signature

School Official Signature

129

Class Competency Record

COMPUTER LITERACY AND DATA PROCESSING OCCUPATIONS
STUDENT RECORD CLASS ROSTER

	COMPUTER LITERACY																		DATA PROCESSING OCCUPATIONS							
	1 Hardware, software and systems				2 Computer Language					3 Computer usage and applications			4 Career opportunities			5 Effects of computers on society and about data control		6	7	8	1 2 data entry		3 4 5 6 Machine Operation				7 8 Programming	
	Basic Components	Hardware/software definitions	Basic terms	Media	Definitions	Flow chart symbols	Flow chart reading	Read & interpret BASIC program	Coding & writing BASIC program	Applications	Activities	Reasons for using computer	Major career levels	Career level tasks performed	Career level skills, characteristics, education & experience	Positive and negative effects	Data control security	Stages of development of computers	Computer vocabulary	Operate microcomputer	Determine program control	Enter data	Operate input/output device	Operate a console	Operate a printer	Operate a console printer	Write BASIC program	Write COBOL program
	A	B	C	D	A	B	C	D	E	A	B	C	A	B	C	A	B	A	A	A	A	A	A	A	A	A	A